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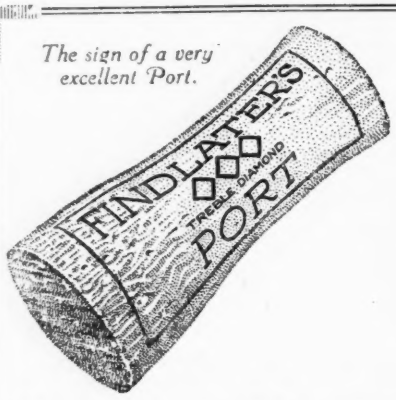

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CONTENTS FOR NOVEMBER, 1924.

PAGE

1. FRONTISPIECE: TWO PHOTOGRAPHS ILLUSTRATING MAJOR-GENERAL THE HON. SIR F. BINGHAM'S LECTURE.

2. SECRETARY'S NOTES xxi

3. AN OUTLINE OF THE RUMANIAN CAMPAIGN, 1916–1918. By MAJOR-GENERAL W. M. ST. G. KIRKE, C.B., C.M.G., D.S.O., *p.s.c.* ... 617

4. SOME STRATEGICAL PROBLEMS OF THE FIRST PHASE OF THE WAR BETWEEN RUSSIA AND JAPAN. By MAJOR-GENERAL SIR W. D. BIRD, K.B.E., C.B., C.M.G., D.S.O. 647

5. SINGAPORE. By CAPTAIN R. J. WILKINSON, O.B.E., 2ND BOMBAY PIONEERS, INDIAN ARMY 687

6. SOME AFTERTHOUGHTS OF THE WAR IN EAST AFRICA, 1914–1918. By COLONEL G. M. ORR, D.S.O., INDIAN ARMY (Retired) 692

7. THE FRENCH ARMY AT WAR. By CAPTAIN E. W. SHEPPARD, O.B.E., M.C., ROYAL TANK CORPS 703

Continued on page 3.

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CONTENTS—continued from page 1.

PAGE

8. CILICIA AND THE BAGHDAD RAILWAY. A Lecture delivered at the Staff College, Quetta. By MAJOR T. J. PONTING, 4/8TH P.W.O. PUNJAB REGIMENT 718
9. THE GREAT "DEAD END." By MAJOR R. J. BRETT, D.S.O., 43RD LIGHT INFANTRY 727
10. THE RED ARMY AND THE SOVIET LITERATURE. By B. HEROYS, GENERAL IN THE IMPERIAL RUSSIAN ARMY 732
11. WORK WITH THE ALLIED COMMISSION OF CONTROL IN GERMANY, 1919–1924 (*Lecture*). By HIS EXCELLENCY MAJOR-GENERAL THE HON. SIR FRANCIS R. BINGHAM, K.C.B., K.C.M.G. 747
12. THE ISLAND OF SABA. By LIEUT.-COLONEL P. T. WESTMORLAND, C.M.G., D.S.O. 764
13. NAVAL NOTES 766
14. MILITARY NOTES 779
15. ROYAL AIR FORCE NOTES 797
16. PRINCIPAL ADDITIONS TO LIBRARY 809
17. NOTICES OF BOOKS 812

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1910. Captain P. W. Game, R.H.A.
1911. Captain H. T. Russell, late R.G.A.
1912. Commander K. G. B. Dewar, R.N.
1913. Major A. Lawson, 2nd Drags.
1914–15–16–17. No Medals awarded.
1918. Lieutenant W. S. R. King-Hall, R.N.
1919. Colonel J. F. C. Fuller, D.S.O., Oxford & Bucks L.I.
1920. No Medal awarded.
1921. Flight-Lieutenant C. J. Mackay, M.C., D.F.C., R.A.F.
1922. Major R. Chenevix - Trench, O.B.E., M.C., Royal Corps of Signals.
1923. Captain A. H. Norman, C.M.G., R.N.

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(With rank of Officers at the time of the Award.)

1900. Captain A. T. Mahan, United States Navy.
1907. Major-General Sir J. F. Maurice, K.C.B., p.s.c.
1909. Hon. J. W. Fortescue, M.V.O.
1910. Sir J. K. Laughton, Knt., M.A.
1911. Professor C. W. C. Oman, M.A., F.S.A.
1913. Colonel Sir L. A. Hale.
1914. Sir Julian S. Corbett, LL.M., F.S.A.
1919. Major-General E. D. Swinton, C.B., D.S.O.
1921. Major-General Sir C. E. Callwell, K.C.B.

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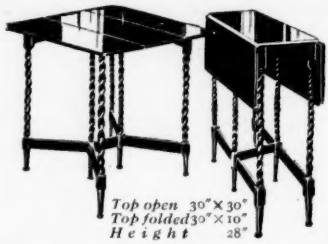

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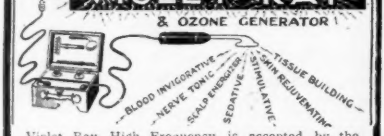

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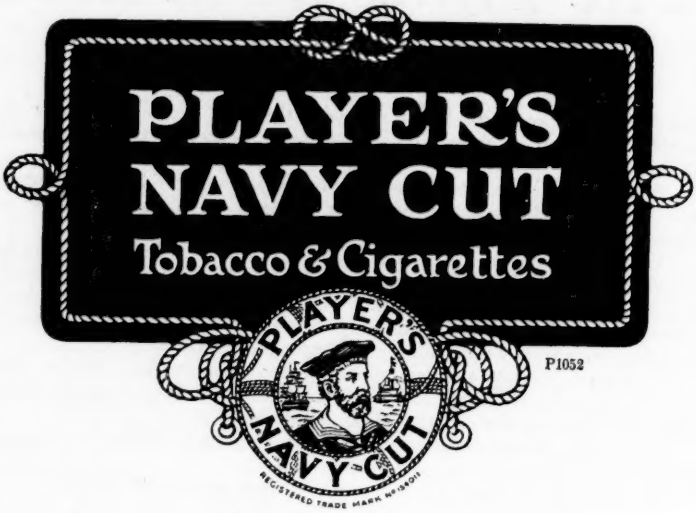

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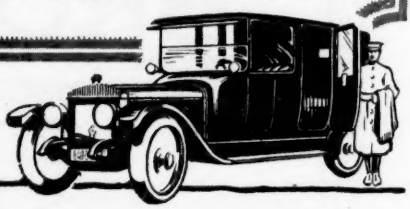

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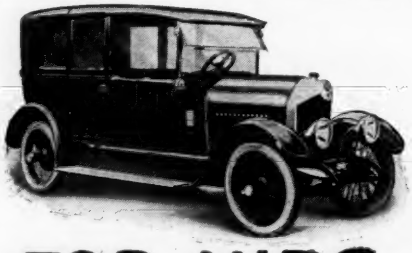

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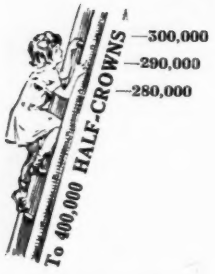

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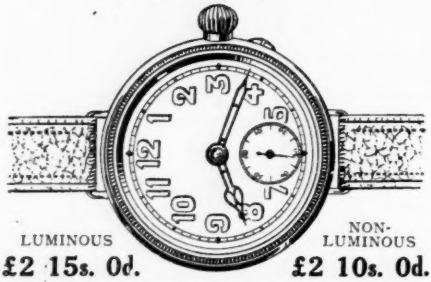

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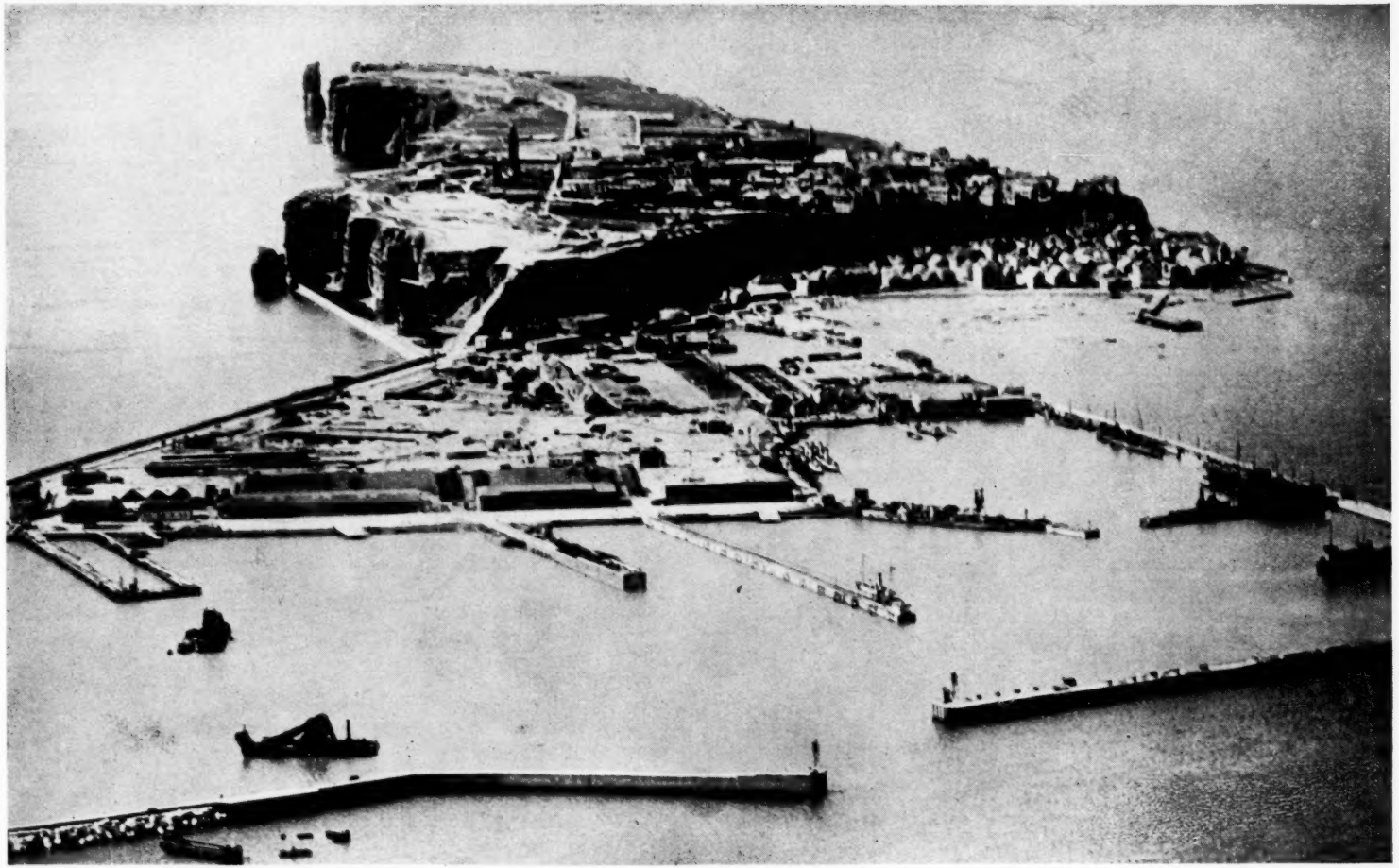

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SECRETARY'S NOTES.

NOVEMBER, 1924.

I.—Council.

Rear-Admiral A. G. Hotham, C.B., C.M.G., Director of Naval Intelligence, has been appointed a Member of the Council as the official representative of the Admiralty, vice Rear-Admiral M. S. FitzMaurice, C.B., C.M.G.

II.—Officers Joined.

The following Officers have joined the Institution during the months of August, September and October, viz. :—

Captain G. St. G. Robinson, D.S.O., M.C., Northamptonshire Regiment.
Lieut.-Colonel E. W. Sansom, D.S.O., Royal Canadian Forces.
Captain A. J. A. Schofield, I.A.
Lieutenant K. P. Smith, Royal Berkshire Regiment.
Captain R. A. Colville, M.C., Queen's Own Cameron Highlanders.
Lieut.-Colonel C. C. R. Murphy, late I.A.
Lieutenant D. E. G. Wemyss, R.N.
Captain C. P. Warren, M.C., Rifle Brigade.
Captain P. MacL. Ross, M.C., R.E.
Captain S. R. Cockrill, I.A.
Captain M. E. Dunbar-Nasmith, V.C., C.B., R.N.
Flight-Lieutenant A. S. G. Lee, M.C., R.A.F.
Flying Officer H. W. Foote, R.A.F.
Captain P. W. Finch, I.A.
Lieut.-Colonel S. J. Hardy, D.S.O., Royal Scots Greys.
Second Lieutenant R. Bucknall, Coldstream Guards.
Lieutenant G. S. L. Clowes, late R.E.
Lieut.-Colonel W. B. Thornton, D.S.O., late Royal Berkshire Regiment.
Major H. Champion de Crespigny, M.C., I.A.
Captain S. C. M. Archibald, M.C., R.A.
Captain B. A. S. Brunskill, M.C., I.A.
Captain C. B. Mosse, I.A.
Major H. W. Walker, D.S.O., R.H.A.
Captain A. J. M. Wilton, I.A.
Captain F. W. Burch, I.A.
Captain E. L. W. Fox, M.C., I.A.
Major O. Miles, late R.F.A., (T.A.).
Professor G. A. R. Callender, M.A., F.S.A., R.N. College.
Captain C. H. Cougdon, Royal Marines.
Lieutenant F. J. Mitchell, M.C., Royal Fusiliers.
Captain C. D. O. Pugh, R.A.
Lieutenant R. S. Steed, I.A.

Captain C. G. Brodie, R.N.
Captain C. L. Lewin, R.N., retired.
Flight-Lieutenant D. F. Stevenson, D.S.O., M.C., R.A.F.
Commander F. M. C. Curtis, R.N.
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Captain R. C. McCay, D.S.O., I.A.
Captain W. P. Bradley-Williams, D.S.O., King's Own Yorkshire Light Infantry.
Captain E. G. G. Lillingston, Royal Scots Greys.
Captain G. Thomson, D.S.O., M.C., King's Own Yorkshire Light Infantry.
Lieutenant E. A. G. Atkins, Royal Inniskilling Fusiliers.
Lieutenant W. D. Robertson, R.E.
Captain D. N. Patterson, R.A.S.C. (T.A.).
Captain G. J. R. Potter, R.A.S.C. (T.A.).
Lieut.-Commander J. W. Durnford, R.N.
Flight-Lieutenant A. L. Fiddament, D.F.C., R.A.F.
Commander G. D. Taylor, R.N.
Major W. G. Peterson, D.S.O., Black Watch (T.A.).
Captain L. A. W. B. Lachlan, Gloucestershire Regiment.
Lieutenant C. E. F. Turner, R.E.
Colonel C. Bonham-Carter, C.M.G., D.S.O., General Staff.
Lieutenant L. D. Jones, R.N.
Lieutenant J. A. Sinclair, R.A.
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Lieutenant G. Knowles, I.A.
Major-General F. S. Inglefield, C.B., D.S.O., late East Yorkshire Regiment.
Captain T. W. Rees, D.S.O., M.C., I.A.
Captain C. E. W. Reith, late I.A.
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Captain B. R. Mullaby, I.A.
Captain A. E. Warhurst, I.A.
Captain W. B. Whitaker, I.A.
Captain E. S. Bingham, M.C., Queen's Royal Regiment.
Second Lieutenant N. M. Barnardiston, Suffolk Regiment.
Captain C. H. Miller, 13th/18th Hussars.
Brig.-General W. F. Mildren, C.B., C.M.G., D.S.O., T.D., 6th Bn. City of London Regiment (T.A.),
Captain F. R. Honeyball, I.A.
Lieutenant J. V. Davidson-Houston, R.E.
Commander R. B. Darke, D.S.O., R.N.
Flight-Lieutenant R. J. Rodwell, R.A.F.
Lieut.-Colonel W. Wordie, O.B.E., T.D., R.A.S.C. (T.A.).
Captain D. W. Daly, 8th Hussars.
Lieut.-Commander A. P. Wright, R.N.R.

Captain R. H. Towell, M.C., R.H.A.
Lieut.-Colonel A. G. Little, C.M.G., Royal Marines.
Commander W. G. Benn, R.N.
Major S. H. Blakey, M.C., 22nd London Regiment (The Queen's) (T.A.).
Captain R. T. Williamson, M.D., late R.A.M.C. (T.A.).
Lieut.-Colonel R. W. Hanbridge, late Imperial Yeomanry.
Captain W. F. N. Sandham, I.A.

III.—Staff of the Institution.

Lieut.-Commander A. C. Bell, R.N., having resigned the post of Editor, the Council have appointed Captain E. Altham, C.B., R.N., to fill his post. They have also appointed Lieut.-Colonel H. G. de Watteville, C.B.E., *p.s.c.*, late R.A., as Assistant Editor (Military).

IV.—The Journal.

The November number of the JOURNAL has been edited by Colonel H. C. Wylly, C.B., the former Editor, and Captain C. N. Robinson, R.N., has kindly contributed the naval notes.

V.—Gold Medal Essay (Military), 1924.

The following essays have been received to October 31st :—

(1) "Suum Vuique."
(2) "Be prepared."
(3) "Nothing venture, nothing win."
(4) "Formez vos bataillons."
(5) "They only deserve liberty and life who conquer them daily anew."
(6) "Perseverantia et industria."
(7) "Freedom for ourselves, and freedom for our sons; failing freedom, war."

VI.—Gold Medal Essay, 1925.

The subject for the Gold Medal Essay, 1925, will be published in the JOURNAL for February, 1925.

VII.—Important Notice.

It is hoped that each Member will endeavour to obtain one new Member, a Banker's Order is enclosed in every JOURNAL with this object. If this could be done, there would be no further cause for anxiety with regard to the sufficiency of income.

VIII.—Admission to Lectures.

Members are reminded that they are able to introduce two visitors to each lecture. When a Member does not attend himself, it is necessary that such visitors should hand in his visiting card at the entrance.

IX.—Museum Purchase Fund.

This fund was opened with the object of purchasing suitable exhibits which from time to time are offered to the Museum, or are put up for sale at various auctions. The Council hope it will receive support from Members of the Institution who are interested in the Museum.

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Less Expended to date	35	0	10
	£30	6	2

X.—The Museum.

The amount taken for admission to the Museum during the past quarter was :—

£169 2s. 6d. in August.
£158 10s. 6d. in September.
£89 3s. 6d. in October.

ADDITIONS.

(7832) Officer's Shako Plate, 35th (Royal Sussex) Regiment of Foot, worn 1872–1878. Officer's Helmet Plate, 35th (Royal Sussex) Regiment of Foot, worn 1878–1881. Officer's Helmet Plate, 35th (Royal Sussex) Regiment of Foot, worn 1881–1901.—Given by Mrs. Herbert L. Sapte.

(7833) An Admiralty Truncheon *circa* 1801–14. The Legal Badge of Office of the Constable of a Port, used by him when arresting a ship under the ægis of the Admiralty Marshal.—Purchased.

(7834) Officer's Shako Plate and Forage Cap Badge of the 4th (or Royal South) Middlesex Militia, 1872.—Given by Major A. C. Chamier.

(7835) Private's Cap Badge, Eton Volunteer Rifle Corps, 1871.—Given by Major A. C. Chamier.

(7836) A piece of the Wood of the Cashmere Gate, Delhi, 1857; it is pierced with bullet holes.—Given by Colonel E. S. C. Willis, D.S.O., I.A.

(7837) Three Squadron Standards of the Royal Horse Guards (The Blues), one of George III. period, and two of William IV. period. They were formerly the property of Field-Marshal Viscount Hill, G.C.B., &c., the full Colonel of the Regiment at the period these Standards went out of commission.—Given by Viscountess Hill.

(7838) Officer's Shako Plate and Forage Cap Badge of the Royal East Middlesex Militia, 1856–62. Officer's Forage Cap Badge and Collar Badge of the 37th Madras N.I. (Grenadiers), prior to 1861.—Given by Captain F. K. C. Gibbons, R.N.

(7839) The following uniform worn in the Crimean War by Sergeant-Major C. Dawes, 8th King's Royal Irish Hussars, viz.: Slung Pelisse, Full Dress Jacket and Girdle, Pair of Overalls, Busby, Plume and Lines.—Given by Sergeant-Major C. Dawes (who died a few days after he had given them).

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AN OUTLINE OF THE RUMANIAN CAMPAIGN, 1916–1918.

By MAJOR-GENERAL W. M. ST. G. KIRKE, C.B., C.M.G., D.S.O., *p.s.c.*

I.

THE Rumanian campaign and, more particularly, the opening phases, is of special interest to the British Army, in that it was essentially a war of movement, fought in varying conditions of *terrain* and climate, between forces of moderate size.

The handling of infantry divisions, or even brigades, of small bodies of cavalry or artillery in circumstances which gave full scope to the initiative of subordinate commanders, frequently had a determining effect in important actions. In the later stages, as the forces on both sides increased, and the frontage to be defended contracted, the campaign assumed the well-known characteristics of the Western front.

Within the compass of a few articles it is obviously impossible to deal fully with a campaign lasting intermittently for two years. It is, therefore, the intention to concentrate rather on the strategy and on the more interesting actions of the earlier phases, and to summarise the remainder sufficiently only to enable the reader to fit Rumania's part into the general picture of the world war.

One of the minor difficulties which is encountered in dealing with this campaign is that of nomenclature. Most places in Transylvania have German, Rumanian, and Magyar names, those on the Bulgarian

side have Rumanian and Bulgarian designations, whilst some have been anglicised in English accounts. It is hoped, however, that reference to the accompanying maps will avoid any ambiguity on this score.

Much has been written, and remains to be written, as to why Rumania did not openly range herself on the side of the allies at an earlier stage; what would have been the effect had she done so, and so forth. With this we are not here concerned.

The political and military circumstances in which she declared war on 27th August, 1916, must, however, be understood, as they had an important bearing on her initial strategy, which is the first problem for our consideration.

Political Factors.

The following lines do not pretend to be in any way a complete account of the protracted negotiations leading to the declaration of war.

Rumania had clear-cut national aspirations; towards their fulfilment she had made a promising start when, in 1913, she had acquired an additional slice of the Dobrudja from Bulgaria without firing a shot, by the simple process of waiting until the other Balkan States had fought first Turkey, and then each other, to a standstill.

There remained the Rumanian *irridenta* of Transylvania (Austrian), the Banat (Austrian), Bukovina (Austrian), and Bessarabia (Russian). (*See* map number 2.)

A satisfactory offer as regards the two former as the price of intervention had always been open, but the Bukovina was a more difficult matter. However, in 1916, the natural aversion of a strong Power like Russia to ceding territory which she herself desired had at last been overcome. (Bessarabia was eventually acquired as an unexpected bonus.)

Public sentiment which, in 1914, had been by no means unanimously on the side of the Entente Powers, owing to distrust of Russia, was in 1916 flowing strongly in their favour.

The crushing of Serbia, Rumania's friend of 1913, a waning belief in the invincibility of Germany were contributory causes, but perhaps the most powerful influence was the dire situation of their compatriots in Transylvania, where the ruthless methods of the Austrian Chief of Police far surpassed anything experienced by the Belgians at the hands of the Germans.

Politically, therefore, Rumania was ripe for intervention; the only question was—when? This would naturally depend on the general military situation.

Military Considerations.

Given a free choice, Rumania naturally wished to launch her army on the crest of the wave; more than this, she appreciated the fact that militarily she was but a pigmy, that she was in danger of isolation, and

that it was risky in the extreme to intervene in a struggle of giants unless one of them was holding her hand. In June and July, 1916, events appeared to be shaping themselves favourably. On every side the Central Powers had been thrown on to the defensive. In the West the abortive German offensive at Verdun had been succeeded by successful French counterattacks, and by the battle of the Somme. Reports from that side were not deficient in optimism as to the effect of these battles on German military man power and resources.

The Austrian offensive in the Tyrol initiated on May 15th had petered out, and the Italians were attacking with success on the Isonzo.

On the Salonica front the Bulgarian offensive, designed to deter Rumania from joining the allies, had been broken off owing to events in Galicia, and Sarrail was himself preparing to attack.

Lastly Brussilof, in June, had, as Hindenburg puts it, commenced "tapping the enemy" all along their eastern front from the Pripet to Rumania, until he had broken through on a wide front in Galicia, and had swept the Austrians out of the Bukovina and up to the Carpathians, beyond which lay the fertile plains of Hungary. The Austrian retreat was only stayed by throwing in German troops which had been earmarked for a counteroffensive on another portion of the Russian front. The fact that no preparation had been made by the Russians to exploit this spectacular but somewhat unexpected success was not immediately apparent, though possibly it may have accounted for their decision to join the other allies in pressing Rumania to enter the war at this juncture. Hitherto General Alexieff had not considered that any extension of the Russian front by the entry of Rumania into the war would be to the allies' advantage, preferring the flank protection afforded by her neutrality to the assistance of her army.

The intimation that this was the psychological moment was conveyed in no uncertain terms. The Rumanians were told that it was "Now or Never," and on their decision depended their hopes of territorial aggrandisement.

Rumania complied, after some haggling over certain political and financial conditions, by which valuable time was lost, and amid scenes of great national enthusiasm declared war on Austria-Hungary on 27th August. Germany followed suit on the following day; the attitude of Bulgaria remained uncertain.

In the military convention giving effect to agreements arrived at with the allies, the more important points were the following:—

(*a*) Energetic action by the Russians, particularly in the Bukovina, against the Austrians;

(*b*) Co-operation by the Russian Fleet in the Black Sea;

(*c*) Two Russian infantry divisions and one cavalry division to be sent on the first day of mobilisation to the Dobrudja, to be increased as and when necessary;

(*d*) A minimum of 300 tons of munitions to reach Rumania daily;

(*e*) An allied offensive on the Salonika front to be initiated practically simultaneously with the Rumanian entry into the war.

The Rumanian Army.

The numbers available on the outbreak of hostilities are shown in Appendix A. Since the outbreak of the great war, Rumania had made strenuous efforts to increase the strength and efficiency of her army, in the face of great difficulties. Chief of these was her isolation, which prevented the provision of up-to-date equipment, or even of the first essentials for her greatly expanded army. Requirements of countries which had already entered the war on the side of the allies naturally received priority over one which had not yet taken the decisive step. Moreover, Rumania's only access to her allies, other than Russia—which could supply nothing—was *viâ* Archangel and Murmansk and thence across Russia, who herself was in chronic need of warlike stores.

It was not, therefore, surprising that the vast majority of munitions intended for Rumania, both before and after the declaration of war, failed to arrive at their destination.

The Rumanian Army, consisting of 23 divisions, 2 cavalry divisions, and 5 *calarasi* (Yeomanry) brigades, though a formidable weapon on paper, was not equipped even up to our 1914 standard. If the old regular divisions 1 to 10 were good, the newer formations (11 to 15) were indifferent, whilst 16 to 23 formed on mobilisation were worse.

Her total available rifles amounted to 300,000 Männlicher and 250,000 converted Martini-Henrys. Whilst divisions numbers 1 to 10 had two machine-guns per battalion, or six per regiment, divisions numbers 11 to 15 had only two per regiment, and divisions 16 to 23 none at all.

There was nothing corresponding to the Lewis gun, the *fusil mitrailleuse*, or the German light machine gun.

Thus, although infantry battalions were 1,000 to 1,200 strong, their fire power was actually considerably inferior to that of the far weaker German units.

The large number of battalions in an infantry division (15 to 25) made the division (20,000 to 25,000) an unwieldy formation, and greatly increased the problems of movement and supply over the exiguous communications in the mountain regions, without a commensurate gain in fire power.

In artillery she had 180 (4-gun) batteries of field artillery, grouped into regiments of six batteries, one regiment of horse artillery, and one of mountain artillery. To increase her small amount of heavy artillery she had drawn on the fixed defences of Bucharest and Galatz and on the fleet. In all, she could put 1,400 guns of very varying models and efficiency into the field.

No gas equipment, offensive or defensive, was available, no trench mortars and very few telephones.

Her air forces were negligible and she had no anti-aircraft guns or lights.

For all natures of ammunition she was mainly dependant on outside sources and consequently the six weeks' supply with which she started the campaign quickly vanished when the promised 300 tons daily did not materialise with any regularity. In addition, an explosion in Bucharest arsenal on 28th May—engineered, it is said, by a Bulgar—destroyed nine million rounds of small arms ammunition and ten out of thirteen cartridge-filling machines.

A survey of the facts leads one to doubt whether the Rumanian Army had gained any military advantage by delay in entering the war.

Efficiency is a relative term, and though Rumania had more than doubled her forces, all her efforts during her two years of preparation had not improved the training and equipment of her army relative to that of her adversaries, owing to the lack of mechanical aids and ignorance of the new methods which had been developed in the meanwhile.

In this respect the Germans had almost as great an advantage as against the Austrians in 1866, or the Russians in 1914 and 1915.

The great expansion of the Rumanian Army led to yet one further difficulty. The proportion of the *intelligentsia* in Rumania is not large, and it was impossible to provide an adequate number of good subordinate leaders. The corps of officers, increased from the 600 of 1913 to 20,000, contained a proportion of inefficients which, in the event, proved that the expansion had been overdone. Thus the Rumanian Army lacked the first essential for a large expansion, viz., strong and well trained cadres.

The bravery of the individual Rumanian soldier could not compensate for such disabilities, and the appalling losses suffered in the first four months of the campaign may largely be traced to the above causes.

The lesson is obvious. If mechanism depends on the spirit and efficiency of the man who works it, the man's efficiency is no less dependent on that of the machine. The two are interdependent. God, as in the days of Napoleon, is still doubtless on the side of the big battalions, but size must now be read in terms of fire-power and movement, as well as in bayonets. The Rumanian attempt to oppose bullets by human bodies could only have one result.

The Theatre of Operations.

Map number 1 shows the general theatre of operations better than pages of description. It will be seen that the fertile plains of Rumania lie like an oasis in the tangle of mountains which characterise the *terrain* of Transylvania, the Bukovina, and, to a lesser extent, the Dobrudja and Bulgaria. On the south, the Danube—unbridged except at Cernavoda—separated Rumania from Bulgaria or territory in Bulgarian occupation from Orsova on the west until ten miles west of Turtukai, whence the frontier ran across the Dobrudja to the Black

Sea. On this latter section there was no natural protection. The points to note about this frontier are that :—

(1) The unbridged Danube is a formidable obstacle, though the various islands afford facilities for assembling bridging material.

(2) The Bulgarian bank commands the Rumanian bank throughout.

(3) The fortresses of Turtukai and Silistria, designed originally by Bulgaria to protect her frontier, formed excellent jumping-off points for a Rumanian offensive, but defensively were a weakness, as Turtukai was unconnected by bridge, and Silistria only by a pontoon bridge, with the Rumanian railheads on the north bank.

(4) The above remark applies very largely to the whole Rumanian Dobrudja. Defensively the best line was just south of, and covering, the Cernavoda–Constanza railway, or a flank position for a striking force based on Turtukai and Silistria.

The length of this southern frontier was about two hundred and seventy miles of river and ninety miles of land front.

The northern frontier ran in a great arc of some four hundred miles from the Russian left flank at Dorna Vatra to Orsova along the crests of the Transylvanian Alps. This mountain barrier, rising to over eight thousand feet, sinks gradually towards the plains of the Danube, throwing out long spurs into Rumania, whilst on the Transylvanian side it falls much more abruptly down into the valleys of the Maros and Olt.

Beyond this moat-like depression, with its circular road and railway, lay a succession of further mountain barriers, the first of which facing east (the Gurghilui range)[1] was backed by a good network of roads and railways; railheads at Reghinul Sasesc (Szasz Regen), Praid (Paradj), Szekely-Udvarhely, Brasov (Kronstadt).

These lines ran back to junctions along the lateral line Des, Cluj (Klausenburg), Alba Julia (Karlsburg), and Hatszeg (Hötzing), which again connected with the main Hungarian railway system.

Looking at the country from the point of view of a Rumanian offensive, it will be seen that the main mountain barrier is pierced by a number of passes, beginning on the west with the Iron Gates through which passes the Danube, the best enemy line of supply. Through all these passes, except the Vulcan Pass, ran good roads. In addition the Red Tower (Turnul Rosu or Rother Turm) Pass, the cleft formed by the Olt River, carried the railway to Sibiu (Hermannstadt). Further east lies a centre group of six passes (E–K) all converging on Brasov (Kronstadt), of which the Predeal (Tomos) Pass carried the main line from Bucharest.

Northwards, round the corner, are further passes, of which the most important is the Ghimes Pass, over which ran the Trotus valley railway.

All these passes played a more or less important part in the campaign. In addition there were a number of tracks which, curiously enough, were

[1] Gorgeny Gebirge on Panorama Map I.

made more use of by the Austro-Germans than by the Rumanians, whose peace training had neglected mountain warfare.

Turning to communications in Rumania itself (Map 3), we see at once that the railway system left much to be desired. This was due mainly to the shape of the country and, to a less extent, to the long spurs previously mentioned, which tended to discourage the construction of lateral railways close to the frontier.

Thus on the Transylvania front, transference of troops from one point to another had to be carried out round an arc involving hundreds of miles—very much the situation on the allied Western front—but in Wallachia there was only one line of railway and that single. Northern Moldavia was rather better off, having two alternative routes.

In Wallachia the situation was aggravated owing to the fact that a projected line, Bucharest-Rosi de Vede-Craiova, had not been constructed and consequently the only railway communication zig-zagged *viâ* Pitesti. As a concrete instance of the general effect, the distance from the Predeal Pass to the Red Tower (Rother Turm) Pass by the Rumanian railways was two hundred and seventy miles as compared with eighty miles by the Transylvanian system.

The excessive length and shape of her exposed frontiers, combined with the weakness of her communications, thus robbed Rumania of the advantages which the possession of interior lines *vis-à-vis* Austria and Bulgaria might otherwise have conferred on her. This was particularly the case if she were thrown on to the defensive. Passive defence with twenty-three divisions along a frontier of over seven hundred miles was obviously out of the question, and the situation demanded offensive action if only as a defensive measure.

Only one further factor now remains to be considered, viz., the enemy, before coming to the first great problems. Where and how should the Rumanian offensive have been launched?

The Enemy.

The situation which presented itself to the Rumanian general staff was as follows (*see* map number 2):

On the Transylvanian frontier were only weak detachments of Austrian troops (five divisions), sent to a quiet front to recuperate and reform.

In the Bukovina and Galicia the Russian advance was temporarily suspended on the slopes of the Carpathians, but a renewed offensive was promised in conjunction with any Rumanian attack into Transylvania. Austria was held to be incapable of further effort and here the unknown factor was the extent to which Germany could send reinforcements, and when. Ultimately it was possible that Rumania might have to deal with a considerable number of German divisions, judging by the capacity of the railways, but the allies hoped to be able to hold the majority on other fronts by continuing their offensives. On the southern front were two strong Bulgarian divisions, and four cavalry brigades, backed by a portion

of one German division (101st)—say, 70,000–75,000 troops—with 30,000–40,000 more watching the crossings of the Danube.

If, contrary to expectations, the Bulgarians intervened, then the pressure exerted by General Sarrail on the Salonica front would determine how far the enemy could increase their forces south of the Danube. On this point the Rumanian general staff had received from Marshal Joffre the most definite assurances.[1]

The initiative, therefore, lay with the Rumanian Army of over half a million men for a period which depended partly on the action of the other allies but more perhaps on the success of her own opening moves. How she should have used it is a question which has been hotly debated.

The Rumanian Plan.

Two main alternatives were open, the first a main offensive in the south, which entailed a defensive attitude on the Transylvanian frontier; the second an advance into Transylvania with a corresponding defensive *vis-à-vis* Bulgaria. The advantages of the former were very great from the point of view of the allies, and indirectly for Rumania also. If Bulgaria, whose policy was thought to be shaky, could be eliminated, Germany's communications with Turkey would be cut, and our heavy liabilities in eastern theatres would soon be liquidated.

Moreover the difficult problem of supply both to Russia and Rumania would be solved by the opening of easy routes from the Mediterranean, and a term would be put to the extremely unsatisfactory situation on the Salonika front.

A successful advance into Bulgaria might have finished the war and, though this was not foreseen at the time, have avoided the Russian revolution, with all its unfortunate consequences.

It promised, in fact, all those advantages which the abortive campaign in Gallipoli had failed to secure, and it is not surprising that the British general staff should have favoured it.

From the Rumánian standpoint, however, there were disadvantages. An advance into Bulgaria was a serious undertaking, particularly if the Bulgarians fought delaying actions back to the rugged barriers of the Balkan mountains which effectively covered Sofia, until Germany could intervene. Sarrail was a very long way off, and had shown little signs of being able to push back the enemy over the mountainous regions, where nature was against him. Unless the Rumanian Army could join hands with him, it would still be isolated and Rumania itself exposed to attack from the N.W. Bucharest was only 70 miles from the frontier, and an Austro-German advance through the Brasov group of passes would have cut Rumania in half and severed the communications of her armies operating south of the Danube unless Russia intervened in force. But if Russia could spare large forces, why should they not invade Bulgaria? It was presumably by some such course of reasoning that Rumania arrived

[1] The possibility of Turkish troops co-operating does not appear to have been contemplated.

at the conclusion that she would only co-operate in an attack on Bulgaria if 250,000 Russians were employed for the purpose. Such a force Russia had no intention of supplying, probably because she knew that Brussilov's success was more spectacular than real, and that there was nothing much behind it.

She therefore favoured the second alternative, which would directly relieve pressure on her own front.

The military advantages of an offensive into Transylvania were, firstly, that by advancing to the chord of the arc formed by the Rumanian frontier the latter would be shortened by over 100 miles. Secondly, if the lateral railway line Des–Hatszeg were seized or denied to the enemy the situation as regards communications would be more or less equalised; and, lastly, the barrier of the Carpathians, which had always stopped the Russians, would be turned and Brussilov could continue his victorious career into the plains of Hungary, holding Rumania's hand.

Politically the Balkan Powers have always been great believers in the " bird in the hand " doctrine. It dictated the Bulgarian strategy also, and gave the Germans much trouble.

Psychologically an advance into Transylvania would raise the *morale* of the Rumanian people, and therefore of the army, as nothing else could do. For them it was what Alsace-Lorraine was to the French, or Trieste to the Italians.

Everything, therefore, pointed to this course and if it was wrong the Russians must share the blame, as they pressed for it.

In any case it was finally sanctioned by Marshal Joffre, who at that time was endeavouring to co-ordinate allied action on all fronts.

The fact that the plan broke down at an early stage does not prove that the alternative would have been any more successful if characterised by the many faults of execution which will appear later.

There remained the question of holding the southern front. The Rumanian Government had indeed originally stipulated for 150,000 Russian troops, in which case she was ready to declare war on Bulgaria. However, General Alexieff, C.G.S. of the Russian Army, considered that he could make better use of them elsewhere, and eventually a compromise was reached by which two infantry divisions and one cavalry division were to move into the Dobrudja on the declaration of war. The Russian Military Authorities admitted later that they had underestimated the extent of the Bulgarian danger and should have sent more. It has been represented that it was Russia which lulled Rumania into a false sense of security as regards Bulgaria's attitude, but it appears from the evidence that Russia joined the other allies in pressing Rumania to include Bulgaria in the declaration of war, and that the negotiations nearly broke down owing to Rumania's reluctance to do so.

Apparently the latter's politicians hoped to compensate for military weakness on the southern frontier by the chance that Bulgaria might not attack her, forgetting that if such a course was in Rumania's interests it must be contrary to those of the Central Powers.

Subsequent events showed that, strategically, the resulting uncertainty as regards Bulgaria's attitude was a cardinal error.

The Rumanian Strategic Deployment.

(*See* map number 3.)

We will now examine the measures taken to carry out the Rumanian plan, starting with the offensive (Transylvanian) front. The latter was 400 miles long and the first point would apparently be to decide over what front the advance should be conducted and whether the main strength should be on the right or left flank.

The advantages of advancing with the left in strength appear to be that this was the most direct route into the Maros valley, and would cut a considerable proportion of the railways feeding the defensive front further east, which the enemy must then evacuate. It would be dangerous to advance with weak forces, because it was the portion of the front against which the enemy could most easily concentrate.

On the other hand, though there was a through line to Sibiu (Hermannstadt), the communications in western Wallachia were poor, and the roads through the mountains limited to those in the Olt, Jiu, and Cerna valleys, forty to fifty miles apart. Further, Rumania's intervention was based on the assumption that the Russians would advance from the north, consequently a Rumanian advance from western Wallachia would be in the nature of an isolated movement. (*See* map No. 1.)

For an advance from northern Moldavia, the railway system behind the front was considerably better, and there was a through railway over the Ghimes pass.[1] On the other hand it entailed a much longer advance over equally difficult country, including a frontal attack on the inner bastion of mountains, before the main Maros valley was reached at Reghinul-Sasesc (Szasz-Regen) and Maros Vasahely.

As previously mentioned, this bastion was backed by a good road and railway system and was likely to be held by the enemy. However, the Russian advance should help to overcome this difficulty.

In principle the Rumanian general staff adopted the advance by the right wing and centre, pivoting on a base to be formed by the First Army in the west. But it does not appear that any concerted plan was made with the Russians—if it was, the Russians did not carry out their part—and consequently the Rumanian operation became an independent one.

To come to actual details, the offensive armies were organised as follows :—

First Army (General Culcer), divisions numbers 1, 11, 13, with 2nd, 12th and 23rd (forming) in reserve, and a Calarasi brigade. Total effectives, 134,403.

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[1] This was irreparably broken by the retiring Austrians.

Second Army (General Averescu), divisions numbers 3, 4, 5, 6, and 1st cavalry, a Calarasi brigade and the 21st and 22nd divisions forming in reserve. Total effectives, 126,808.

Fourth (Northern Army) (General Presan), divisions numbers 8, 7, 14, and 2nd cavalry; 4th and 38th Brigades and a Calarasi brigade. Total effectives, 107,948.

In general reserve for either front, near Bucharest, divisions numbers 10 and 15, and the Heavy Artillery. Total effectives, 51,165.

The objective of the above was nominally the line shown on map number 2, though probably the High Command hardly expected to get so far.

It is difficult to trace in this arrangement any sign of a strong marching right wing. Rather would it appear that the allocation of forces was dictated entirely by the capacity of the communications, which were best in the centre; possibly also by a latent desire to cover Bucharest, which dominated Rumanian strategy throughout. In any case it involved a gigantic wheel by isolated columns on a front of some three hundred miles, and was more in the nature of a forward concentration than an offensive operation. It could only be justified on one of two assumptions: either that no serious opposition would be met with until concentration was complete, or that each column had behind it sufficient reserves to ensure it against defeat in detail.

The first assumption would probably have been correct had Rumania declared war a few weeks earlier, whilst Germany was still fully employed in stabilising the Austro-Russian front; the second might have been justified but for events in the south which led to the removal of all the reserves from behind the Transylvanian offensive.

The Southern Front.

For defence against any possible action by Bulgaria the following were allotted:—the 17th division, Turtukai; the 9th division, Silistria and the Dobrudja front; the 19th division, Constanza and the Dobrudja front; the 16th, 18th, 20th divisions, along the Danube.

These troops constituted the Third Army, their total effectives being 142,523.

In addition, two Russian[1] infantry and one cavalry divisions were on the move to the Dobrudja front.

With the general reserve so near as Bucharest, these forces should have been ample.

It has been stated[2] that it was the intention, if attacked, to fight delaying actions back to positions covering the Constanza–Cernavoda railway, until the Russians arrived, and eventually to advance and seize the line Ruscuk–Sumla–Varna (*see* map number 2) as an additional protection to Bucharest.

[1] One of these Divisions was formed from Serbian prisoners of war.
[2] "Istoria Rozbouilui," by Const. Kiritescu, vol. 1, p. 166.

Except that in both cases it was apparently assumed that Turtukai and Silistria could take care of themselves, it is hard to find in the preliminary dispositions signs of any such plan; rather they disclose a dispersion of force which, in an attempt to hold everything, left them weak everywhere, in the face of a far smaller but concentrated enemy.

Air observation of any kind would probably have given them sufficient confidence in their intelligence to avoid this elementary mistake.

The German Countermeasures. (*See* map number 2.)

The Germans had not been blind to the possibility of Rumanian intervention. At the end of July parts of the 101st German division were transferred to Ruscuk on the Rumanian frontier and Mackensen was informed, that in the event of war with Rumania, he was to take over command on the Dobrudja and Danube fronts. Meantime he was to make such reconnaissances and preparations as were possible without attracting attention.

It was assumed that Rumania would advance into Transylvania and, as the result of conferences between German, Austrian, Bulgarian, and Turkish representatives, countermeasures were based on that hypothesis. Mackensen, with a new army consisting of part of 101st German division, four Bulgarian divisions (including one to come from Macedonia) and two Turkish divisions from Adrianople, was to attack as soon as possible in the Dobrudja with a view to a subsequent crossing of the Danube and an advance on Bucharest. With this in view the Austrian heavy Danube bridging train was sent to near Sistovo, where it was hidden behind an island. The technical difficulties of crossing further down stream were considered to be too great. Preparations were also made "for the abundant equipment of Mackensen's Army with such weapons, not yet known to the Rumanians, as heavy artillery, mine-throwers, gas." (Falkenhayn.)[1]

In the north, Falkenhayn, who was then C.G.S., says that the Austrians were to try to hold up the advance of the main Rumanian forces over the mountains as long as possible, until the attacking troops which were to be despatched immediately after the declaration of war had got into position. Germany had earmarked five infantry divisions and between one and two cavalry divisions to help in this. Austrian headquarters intended to send to Transylvania two infantry divisions and one cavalry division, all of which had suffered heavily in battles on the eastern front, but which could be brought up to strength. Unity of command on the Rumanian front from the Danube to the Bukovina was assured by placing the Austrian first army already in Transylvania under General Arz von Strausenburg, whose orders were to organise southern Hungary for defence, block the passes, and prepare demolitions. Falkenhayn complains that the Italian offensive at the beginning of August interfered with the proper execution of these latter orders.

[1] "Der Feldzug der 9. Armee gegen die Rumänen und Russen, 1916–1919."

Hindenburg, who replaced Falkenhayn on the outbreak of the war with Rumania, accepted these arrangements without serious modification.

The only element of surprise was that a Rumanian declaration of war was not expected until after the harvest in the middle of September, but Falkenhayn says that it only required a few telegrams to complete the counterpreparations, which were all well advanced. Hindenburg, on the contrary, says that, owing to the situation on other fronts, "the Rumanian declaration of war found us practically defenceless against the new enemy." He goes on to admit that a plan of campaign existed when he took over, two days after Rumania's declaration of war, but adds: "in view of our defective preparations, the plan of campaign which had been adopted had lost its original significance."[1]

In this he seems to do less than justice to his predecessor, for, as a matter of fact, the plan in its broad lines was immediately put into operation, and seems to have worked sufficiently well.

It is interesting to observe that the total forces actually facing or under orders for the Rumanian front at the end of August were as follows:—

Austrian.—4–5 weak divisions; 2 divisions and 1 cavalry division *en route;*

German.—⅓ division (the rest of the division on Salonika front); 4 divisions and 1 cavalry brigade *en route;*

Bulgaria.—2 strong divisions and 1⅓ cavalry divisions, 2 strong divisions to come:

Turkish.—2 divisions *en route;*

giving a total of seven divisions and 1⅓ cavalry divisions, rising by the middle of September to seventeen divisions and two to three cavalry divisions; against Rumania's twenty-three divisions, and two cavalry divisions, to be increased to twenty-five and three by Russian reinforcements moving to the Dobrudja.

Both had further possible reinforcements, the Rumanians from Russia, the enemy from Bulgaria, Turkey, Austria and Germany. But whilst the Rumanian general staff were in the position of the poor relation and had no say in the allotment of Russian resources, beyond commanding them if they arrived, the enemy operations were co-ordinated by the Germans who could effectively control their allies through possessing all the resources in money and material. As Rumania formed merely an extension of the Russian front, the Russian high command should theoretically have controlled the operations of the Rumanian Army. In practice such a solution was incompatible with Rumanian national sentiment and her distrust of Russia, and in the circumstances in which she entered the war could not be imposed upon her.

[1] "Out of my Life," p. 200.

II.

EVENTS UP TO 18TH SEPTEMBER. (*See* map number 3.)

Having now got a general view of the plans and resources of the two sides, we can proceed with the story.

On 28th August the covering troops of the Rumanian Armies, numbering above 135,000, advanced into Transylvania against very little opposition. In some places the Austrians carried out demolitions, notably of two large viaducts on the Ghimes pass railway—a serious matter for the Fourth Army—in others, positions were abandoned without a shot being fired.

By 9th September the outer wall had been scaled by the Fourth Army, and the enemy had retired to the inner bastion.

Meanwhile an event of far-reaching importance had occurred on the southern front, of which space permits only a very brief outline. Bulgaria waited only just long enough to complete her preparations, then on 1st September declared war, and immediately attacked, with a view to creating a diversion and weakening Rumania's Transylvanian offensive (*see* map number 3). The cavalry division, reinforced with machine gun cyclists and infantry, was despatched to give the impression of an advance northwards, cut the communication between Bazargic and Silistria and keep the Rumanian forces separated, the 12th Bulgarian division following a few days later. Under cover of this diversion, and also of a flank guard closer in, 31 battalions and 132 guns of the 1st and 4th Bulgarian divisions attacked Turtukai, garrisoned by the 17th division, a new formation of indifferent value, comprising some 19 battalions. The Bulgarians were comparatively well provided with heavy artillery, and with aeroplanes and captive balloons for observation of fire, which was opened on September 3rd.

The Rumanians, thoroughly alarmed for the safety of Bucharest, on 4th September moved the general reserve south by all available motor transport, the 10th division to Giurgevo, the 15th *viâ* Oltenita, whence its infantry crossed battalion by battalion to Turtukai, thus raising the garrison of the latter to 32 battalions and 156 guns. At the same time the 9th division, now under Russian command, was ordered to march south to the relief of Turtukai. Owing to faulty initial dispositions its commander could, however, collect only 5 battalions out of 16 for the purpose, and these were held up by the Bulgar covering force 10 miles away. An attack in flank by Bulgarian cavalry completed their discomfiture. On the 5th the Russian corps had arrived north of Bazargic, but effected nothing, for on 6th September the garrison of Turtukai surrendered, and 25,000 men, 100 guns, and 62 machine guns, with large warlike stores, passed into the enemy's hands. Only some 4,000 managed to effect their escape, either by swimming the Danube or slipping along the bank to Silistria. The enemy losses were under 8,000. One more had been added to the long list of fortresses which had failed to fulfil expectations; but it must be

remembered that in practically every case they had been garrisoned by second or third-class troops. On the other side, one must remember Verdun.

Again, had the available Rumanian and Russian forces been concentrated, their flank or flanks resting on the protection afforded by Turtukai and Silistria, ready to act offensively, Bucharest and the Dobrudja would have been effectively protected, and the whole course of the campaign might have been altered. The lessons appear to be that fortresses must be held by good troops and that their value depends on their forming a pivot of manœuvre for an active field army.

The Rumanians, however, thoroughly frightened of fortresses after their experiences at Turtukai, were not prepared to make any attempt to utilise Silistria, and abandoned it on 9th August.

Mackensen then concentrated his forces and advanced northwards, the Russo-Rumanians opposing him retiring, after unsuccessful engagements, to the line of the old frontier, which line Mackensen successfully attacked on September 13th, 14th and 15th.

If the material losses at Turtukai were heavy, the moral effect was disastrous. Political circles in Bucharest were dumbfounded, and the whole plan of campaign was thrown into the melting pot, the popular apprehension being increased by a bombardment of Oltenita, which set fire to oil reservoirs, and seemed to presage an advance on Bucharest.

On 15th September a council of war was held, at which General Averescu, now appointed from command of the Second Army to that of the southern front, urged an offensive against Bulgaria; whilst General Presan, commanding the Fourth Army, who was making excellent progress in northern Transylvania, was equally insistent on adhering to the original plan.

Apparently no one could decide between the views of these outstanding personalities, and the worst possible conclusion was arrived at, viz., to do both.

In conformity with this compromise, the Dobrudja Army was to contain the 2nd, 5th, 9th, 12th, 15th (reformed) and 19th divisions, in addition to the 61st (Russian), the Serbian division, and a Russian cavalry division, and was to take the offensive southwards, whilst the 10th, 21st, 22nd, and 1st cavalry divisions, with the 16th and 18th already there, were to cross the Danube near Rahovo, seventy miles behind the Dobrudja front.

It will be seen from map number 3 that this plan effectually removed all the reserves on which the success of the Transylvanian offensive depended, the first and second armies between them losing five divisions and a cavalry division, whilst the general reserve also disappeared.

On the southern front it would result in the concentration of two masses, together totalling thirteen divisions and two cavalry divisions, seventy to ninety miles apart to deal with Mackensen's Army of only five to six divisions. It involved an opposed crossing of the Danube and heavy displacement of troops, with the loss of time thereby involved,

when every day was of value in view of the probable movement of German reinforcements. It calls to mind our own east *versus* west controversy, which was partly responsible for the German break through in March, 1918.

Nor were the prospects of success improved by the fact that Averescu and Zaionchkovsky, commanding respectively the attacks across the Danube and down the Dobrudja, were independent of each other.

The results will appear in dealing with the Transylvanian offensive, to which we must now return.

III.

The German Counteroffensive in Transylvania. (*See* map number 3.)

The Roumanian advance into Transylvania had proceeded methodically, if somewhat slowly, the enemy falling back and fighting only delaying actions, except in the Petroseni area, where he made a more determined resistance to cover his communications in the Maros valley. The advance was generally delayed, less by enemy resistance than by difficulties of communications, inexperience of commanders and staffs, and inability to prepare and push home attacks quickly, due partly to the deficiencies of equipment which have been mentioned.

Consequently, on 18th September, when Falkenhayn arrived on the scene at Deva to take over command of the Ninth Army, then in process of assembly, the Rumanian columns were still widely separated, and even where they were in touch, completely out of supporting distance of each other.

The situation, as it presented itself to Falkenhayn, was as follows (*See* map number 3):

The enemy was advancing slowly on a front of some two hundred miles in five main groups. With the forces at his disposal it was impossible to hold this front defensively; therefore, he must attack somewhere, and endeavour to seize the initiative. Obviously the enemy group which had crossed the Vulcan and Szurduk passes and captured Petroseni must be stopped, as it threatened the main railway communications most directly. This, however, had already been accomplished on 14th September by a counterattack of nine German and six Austrian battalions (including parts of the Alpine corps and 187th German division). Further east the 13th and 23rd Rumanian divisions on the outskirts of Sibiu (Hermannstadt) were being held with difficulty by some Austrian Honved and Landsturm units, stiffened with three German battalions.

Information was vague as to the Second Rumanian Army which had pushed forward into the wooded hills N.W. of Brasov (Kronstadt). In front of them were the 3rd German Cavalry Division (three regiments) and the Austrian 1st Cavalry Division (six regiments) connecting with

the Austro-German forces opposing the Rumanian Second and Fourth Armies further east and north-east.

As regards reinforcements, the remaining two-thirds of the German Alpine corps was detraining near Sebesul Sasesc (Muhlbach). The 76th, also allotted to him, was moving towards Teius (Tovis). Further north the 89th German division had finished detraining at Maros Vasahely and the 72nd Austrian division was in process of doing so in the extreme left of the line.

The orders received by Falkenhayn from Hindenburg on 9th September, of which the following is a summary, will best show the general plans as conceived at G.H.Q. :—

> " The task of the Ninth Army in conjunction with the First Army is to beat the enemy which has invaded Transylvania.
>
> " The primary task of the First Army is to delay the enemy, and in conjunction with the Seventh Army (on the left of the First Army) to hold the Tarnava-Maros position, taking every opportunity of local counterattacks against the isolated portions of the advancing enemy.
>
> " The Ninth Army will first drive back the enemy who have crossed the Szurduk pass, in order to be able to concentrate against the enemy near Hermannstadt (Sibiu) and envelop both his flanks.
>
> " The right wing of the Ninth Army will hold back the enemy in the Orsova area.
>
> " If forced to do so, the left wing of the Ninth Army will fall back in conjunction with the First Army in the general direction of Medias (Mediasch) and Dicso-Szt.-Marton."

Other detailed orders followed, to which Falkenhayn objected, and, after an exchange of telegrams, he was eventually given a free hand.

As a matter of fact he had already issued orders for the concentration of all available forces round Sibiu. The two brigades of the 187th division, and the one brigade of the Alpine corps near Petroseni (less one battalion and one battery each) were to move round at once by road and rail.

With the 76th division and 51st Austrian division, this would give him three German and one Austrian divisions against the two Rumanian divisions, and further he had a call on the 89th German division. It left only one indifferent Austrian brigade, stiffened by two German battalions and two batteries, to hold the Rumanians round Petroseni, and thus carried out in a high degree the principle of concentrating the maximum available force at the decisive time and place.

Orders for these moves were issued at midday on 19th September, but the troops from Petroseni had to make a long *détour* to reach Sibiu and the road and railway were in a very bad state. The Alpine corps could not begin its three days' turning movement into the mountains, which formed the basis of the plan of attack, until the 23rd and the combined attack must, therefore, necessarily be delayed until the 26th.

Much might happen in the intervening week if the Rumanians were enterprising, and Falkenhayn actually had some periods of acute anxiety.

On the 19th, detachments of the Rumanian Second Army made a movement down the Olt from Fogaras, unfortunately with such little determination that the German cavalry were able to stop them without much difficulty.

On 20th September the Austrians in the north began to give way, and it looked to Falkenhayn as if they might not hold long enough to enable his offensive to be delivered. It is difficult to agree with G.H.Q.'s conception (*vide* order quoted) that if the Austrians retired on his left, Falkenhayn could still carry out an envelopment of both Rumanian flanks at Sibiu (*see* map number 4), or even deliver his attack at all.

On the 22nd the Rumanians themselves assumed the offensive in force all along the front astride Sibiu, and their 13th division gained some success on the right wing against the Austrian 51st division and the cavalry, the latter being driven back from Glimboka northwards across the Haar. For a time it looked as if communication up the Olt with the Second Army would be opened, but here, as elsewhere, the Rumanians showed their weakness in attack and they made no effort to exploit their success on the 22nd and 23rd, nor, unfortunately, did the Second Army do anything to co-operate.

Now very anxious about his left flank, Falkenhayn asked the First Army to send the 89th division to Sighisoara (Schassburg), but in view of the critical situation of that army the request was not complied with. Eventually, by invoking the assistance of G.H.Q., Falkenhayn got it on the 27th, most unfortunately, as it turned out, for the Rumanians.

Meantime the latter had displayed commendable activity on the Petroseni front against the weak enemy forces left there to hold them. From the 23rd onwards they attacked strongly and on the 25th captured Petroseni and its valuable coal mines. Unfortunately they were not strong enough to seriously threaten Falkenhayn's communications in the Maros valley, and he did not allow this reverse to interfere with the arrangements for his main attack against the Red Tower pass, due to start the following morning.

Altogether Falkenhayn's situation during the period of preparation for the battle of Sibiu was not without its dangers. On his left there were grave doubts whether the Austrians would not go right back and leave him in the air and exposed to attack by the Second Rumanian Army. His right was also very far from secure. True he had the great advantage over his enemy that he was in easy communication with all parts of his front by telephone or motor-car; moreover he had good information from the air, which was denied to the enemy, and the population was quite as much pro-German as pro-Rumanian. His information was therefore much superior to that of the Rumanians, who were groping their way forward in the fog of war, their attacks apparently unco-

ordinated and their numerical superiority nullified by lack of fire power. Still, due credit must be given to him for sticking to his plan in the face of alarms and excursions on both his flanks.

The Rumanian forces, consisting of the 13th and 23rd divisions and six squadrons of Calarasi, were on a front of some ten to fifteen miles, with no reserves. Their orders were to take up a strong defensive position and await the advance of the other groups further east.

However, General Popovici decided to carry out the local offensive previously mentioned as alarming Falkenhayn, in order to improve the position and open up communication with the Second Army up the Olt valley.

The flank guard watching his right and maintaining communication with the Petroseni group consisted of one company of infantry, and although the concentration of enemy forces in front of him had been frequently reported by fleeing Rumanian inhabitants, no credence was apparently attached to this information until too late. Thus the march of the Alpine corps was quite unsuspected until the 24th; in fact the trap was sprung almost before he knew of its existence.

As soon as the danger was apparent, the G.O.C. of the First Army acted with promptitude, so far as his resources permitted. Part of the 20th division was hurried up from the Danube, whilst the Second Army was asked to send the nearest division down the Olt from Fogaras to attack the Germans in flank. To meet this request the 4th division had to be pulled out of the line, and passed behind the 3rd division, no free reserves being available in the army. Part of the 6th division was also withdrawn, but owing to the delay caused by marching across the communications of the 3rd division, arrived on the scene even later than the 4th division.

G.H.Q. do not appear to have taken any great interest in the matter, their attention being entirely fixed on their southern offensive, now about to mature.

THE BATTLE OF SIBIU (HERMANNSTADT), 25th–28th September, 1916. (Map 4.)

Falkenhayn's original plan in conformity with G.H.Q. orders consisted of the envelopment of both wings of the Rumanian forces in front of the Red Tower pass. However, the Rumanian attack on the 22nd, which drove back his left, threatened, if continued, to interfere with the deployment of the 76th Reserve division which, moving round behind the cavalry, was to carry out the turning movement on the left. It was therefore modified to the following:—

(*a*) The 187th, 51st Austrian, and 76th Reserve divisions in that order from right to left to attack astride Sibiu, main weight on the west of the town, objective Talmes ten to fifteen miles distant. This attack was to be supported by the three divisional artilleries, the field artillery of the Alpine corps (less one 4″ gun battery) and all the heavy artillery.

(*b*) The Alpine corps with its mountain artillery brigade, and two Austrian mountain batteries, to attack from the line Vrf Mare, Prezbe, Gyhan against the Red Tower pass, and cut the Rumanian line of retreat.

(*c*) The cavalry corps (one German and two Austrian brigades) had a dual *rôle* :—the first being to attack across the Olt, cut off any communication with the Rumanian Second Army, and, if possible, join hands with the Alpine corps, thus completing the circle. This comprehensive task was entrusted to three German cavalry regiments and a few guns. The second duty, viz. to stave off any attempts by the Second Rumanian Army to advance down the Olt valley, rested with the first Austrian cavalry division, which also had to maintain touch with the left of the First Army some twenty miles away to the east. It was supported by the 4″ battery of the Alpine corps which played an important *rôle* in bluffing the Rumanian cavalry.

The plan was an extraordinarily bold one. To reach its position of deployment, the Alpine corps, minus all vehicles and equipped entirely with pack transport, started from Sina, some twenty miles west of Sibiu on September 22nd. It made its way over the mountains, in places well over 7,000 ft., through beech forest, then fir, and finally in the higher slopes through brushwood, and, after a march of nearly fifty miles, reached its allotted positions of deployment without encountering any enemy until quite close to the pass.

Falkenhayn was kept duly informed of its progress and knew that, so far, his plans were working well.

Not less ambitious perhaps, was the task allotted to the cavalry. Indeed it seemed only justifiable on the assumption that his main attack would forestall any intervention by Rumania's Second Army, or that the 89th division would be at hand in time to deal with the latter, for he had no other reserves. Both assumptions only just missed being falsified.

At daybreak on the 26th the German attack commenced. On the extreme right the Alpine corps met with immediate success, reaching the road through the Red Tower pass at several points. At Caneni the railway was blown up, and for a time the pass was closed. A Rumanian detachment trying to move into the pass was annihilated.

On the left a detachment of German cavalry with some guns crossed the Olt and deployed against the line Felek-F. Porumbak.

Rumanian cavalry advancing from the east along the foot of the mountains were stopped and driven back by the fire of the 4″ battery.

The main attack, however, did not go quite so well. The 187th division on the right had by the evening carried the heights round Guraro and Poplaka, but the Rumanians still held D. Cioara and Balare. The 51st Austrian division, waiting for the 187th division to clear its front, did not advance; the 76th became involved in difficult country and did not even succeed in deploying for attack. In Falkenhayn's opinion the artillery was too much split up and badly handled. The appearance

of the Rumanian cavalry on his left disquieted him, and he was far from satisfied with the general situation, especially as the only news from the Alpine corps was that it was being heavily counterattacked. He had no reserves, and therefore asked the First Army to send him the leading part of the 89th division. In consequence, one regiment and an artillery brigade were sent in tactical trains at once to Ocna Sibiiului (Salzburg), seven miles north of Sibiu.

Meantime the Rumanian efforts were mainly devoted to trying to open their line of retreat, and, thanks to the efforts of a regiment sent back from the front, and to units of the 20th division attacking from the south, these were partially successful; but Rumanian troops moving through the pass still had to run the gauntlet of artillery and machine gun fire.

27th September (second day of the battle).

The attack was renewed early on 27th, and with the help of the rear *échelon* of the Alpine corps the Oncesii hills were captured at an early hour. This led to the evacuation of the D. Cioara and Balare.

A well-executed Rumanian counterattack against the 51st Austrian division stopped the centre however, and by the evening the line ran from astride Disznod (Michelsburg) to just south of Selimbar (Schellenburg) and thence back to Kastenholz. The Rumanians were still fighting well, and the Germans could only get forward with concentrated artillery support.

The Alpine corps was holding its own with difficulty. During the day it was driven back from Veresterony and Caneni, and was hard pressed by attacks from the south against its positions west of the pass.

On the right, the Second Rumanian Army seemed at last to be in movement, strong bodies of cavalry advancing through Al. Bist, F. Bist, and F. Utfa, and disappearing into the woods. The last reserves of the cavalry corps were sent to oppose them at Kerzcisora, but no collision occurred.

Meantime the outflanking German cavalry were holding the Porumbak valley, thus closing the gap between the Olt and the mountains, whilst one squadron with machine guns had captured the heights of La Cetate and held its ground against counterattacks. This weak brigade was in fact holding two fronts facing respectively east and west some six miles apart, and was the only obstacle to a junction between the First and Second Rumanian Armies.

Falkenhayn was far from happy. The Rumanians still held a semi-circular position covering the pass; the Alpine corps was still beyond supporting distance and was getting exhausted, and it was doubtful if the pass was really closed. The intervention of the Second Rumanian Army seemed imminent, and the big gap between his left and the right of the First Army was only watched by weak cavalry detachments. He decided to send a few infantry to help the cavalry, to put the regiment and artillery brigade of the 89th division, which had arrived from Ocna

Sibiiului (Salzburg), into the main attack and to order the remainder of that division to march from Sighisoara as rapidly as possible to Henndorf and Jacobsdorf, *i.e.*, behind the gap on his left, so as to arrive there on the following day (28th).

The Rumanian First Army still hoped that the Second Army would intervene, and, despite heavy bombing attacks from the air, maintained an intact front covering the entrance to the pass.

28th September (third day of the battle).

The German advance made good progress all along the line against weakening resistance, whilst the cavalry on the left wing gained ground across the Porumbako ravine. Further east, however, the weak covering detachment of cavalry facing east had been driven in during the night at Oprea-Kerzisora. Counterattacks had, however, temporarily checked the Rumanian advance, which actually was only made by weak infantry detachments. The 6th Austrian cavalry brigade connecting with the First Army reported that the right of the latter army south of Bekokten had been driven back towards the north-west, and that they themselves had been forced back into the hills north of the Olt as far west as Kerz. Falkenhayn urgently begged the First Army to hold a line in continuation of the Haar valley through Meschendorf.

By midday, however, the 89th division, after a forced march of 20 miles from Sighisoara, reached Jacobsdorf-Henndorf and proved the deciding factor.

Without waiting for orders its commander at once pushed his leading units forward, and their appearance on the flank of the Rumanian 4th division seems to have exerted as immediate and paralysing an effect as had similar Japanese action on Orlov's detachment at Liaoyang.

This must be attributed very largely to the want of air observation from which the Rumanians suffered throughout.

At nightfall the German centre was across the entrance to the pass just south of Talmesch.

The Alpine corps, much exhausted, had held its positions with difficulty against Rumanian counterattacks from the south. The cavalry connecting the German left with the Austrians were in such imminent danger of being driven off the field by the 4th Rumanian division, that Falkenhayn had to send up the infantry regiment and artillery brigade of the 89th division—allotted to the centre but not yet engaged—by march and motor to Nocrich (Leschkirch) and Agnita (Agnethlen).

The Fourth Rumanian Army in the north was advancing resolutely, but was too far away to effect the immediate issue. If, however, the Second Rumanian Army continued to push forward strongly there still seemed a chance that victory at the Red Tower pass might be snatched from his grasp. The capture of a Rumanian pilot bearing the following message, showed that such was the intention:—

To the Commander of the First Army.

"I have the honour to inform you that the Second Army advanced to within ten miles of your positions on evening 28th. We march between 4 and 5 a.m. on the 29th, bringing help and ammunition."

From Second Army. Despatched 1.30 a.m. 29th September.

However, General Popovici, his men worn out and abandoning hope of any timely help from the Second Army, had already given the order to retreat. During the night 28th–29th the two divisions, with 2,000 vehicles, marched in close order back to Caneni through the ten-mile long pass which Falkenhayn fondly imagined to be firmly closed by the Alpine corps. As the road was still under machine gun fire in places this was a remarkable performance, particularly on the part of the artillery, who drew the enemy's fire with civilian waggons, and then galloped batteries past the danger points.

Thus the "bag" fell far short of what Falkenhayn had anticipated, for he only collected 3,000 prisoners, 13 guns, 2 aeroplanes and 70 lorries.

Strategically, however, the victory was decisive. It showed that the imposing façade of the Rumanian offensive into Transylvania was a mere shell, with nothing behind it; it robbed them of the initiative on the northern front, and spelt the failure of the southern offensive before it had even started.

The tactical mistakes of General Popovici which led to his supercession are obvious: the failure to watch his left flank, the wide extension of front in a too forward position without any adequate reserve. These, however, were minor errors in comparison with the faulty strategy of the high command, which should never have placed him in such a position. A similar disaster, if not to him, was bound to occur in the circumstances, given an energetic and capable adversary such as Falkenhayn. That the latter was lucky does not detract from the merit of his strategical insight and the boldness with which he initiated and carried out his plan; but he must have failed had any of the divisions standing idle opposite Rahovo been where they should have been according to the original Rumanian plan.

Let us see what these divisions actually accomplished.

IV.

The Rumanian Offensive in the Dobrudja and the crossing of the Danube at Rahovo.

Mackensen, continuing his offensive in the Dobrudja, had attacked the Rumanian position Tuzla-Cobadin-Rosova unsuccessfully from 16th September to the 19th. The latter, reinforced by the 115th Russian division, then commenced a counteroffensive, as the result of which the enemy was forced to withdraw a short distance, but as a combined

operation with the crossing of the Danube at Rahovo the venture completely miscarried.

The latter operation was commenced by the 10th and 21st divisions on the evening of October 1st, *i.e.*, just after the Sibiu (Hermannstadt) defeat. In the face of considerable artillery fire and bombing from aircraft, which caused heavy loss, a bridgehead was formed and pushed out towards Turtukai and Ruscuk.

The following day the rain came down in torrents and the Danube rose; enemy monitors appeared and broke through the Rumanian defensive minefield, incendiary mines drifted down on the pontoon bridge, which was also bombed from the air, and between them all it was broken on 2nd October.

Moreover, the news from Transylvania which threatened the security of Bucharest from the north, necessitated the reinforcement of that front. Consequently the withdrawal of the troops which had crossed was commenced under great difficulties, but was successfully accomplished, with the exception of a small rearguard, which was practically annihilated on 5th October.

Hindenburg's comment on the Rahovo enterprise was not far wide of the mark:—[1]

> "A fine plan on paper! Whether it was a Rumanian inspiration or that of one of her allies is still unknown, even to-day. After the experiences which the Rumanians had had of us before the day of the Rahovo interlude, I regarded the enterprise as more than bold, and not only thought to myself, but said openly 'these troops will all be caught.'"

That the last remark was falsified was due perhaps to the floods which may have proved a blessing in disguise, as stopping the operation before it had gone too far to withdraw.

It is interesting to note that whilst the Rumanian armies had suffered decisive defeats on both northern and southern fronts owing to lack of troops at the decisive point, the 10th, 16th, 18th, 21st and 22nd divisions had played no useful part

Towards producing this unfortunate result the abortive Rahovo enterprise had completed the work which Turtukai had begun.

The situation was aptly described by a distinguished British officer on 9th October, as follows:—[2]

> "On Rumania's entry into the war I drew attention to her faulty dispositions and predicted defeat in detail. This is what has taken place, and will continue to take place, until a definite plan is adopted and adhered to. I have, up to the present, been unable to trace any such plan. Including the Russian-Serbian divisions, Rumania possesses superiority over all enemy forces opposing her, and she should decide definitely where she will take the offensive and where she will stand on the defensive."

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[1] "Out of my Life," p. 201.

[2] General Sir William Robertson.

It must be added, however, that a more intimate knowledge of the Rumanian army and of the Russian divisions might have led him to modify his opinion as to the possibility of the former taking the offensive with any chance of success at this stage without stronger Russian backing.

V.

The Battles of Sinca (Geisterwald) and Brasov (Kronstadt).

(*See* map number 5.)

As a result of the defeat at Sibiu the First and Second Rumanian Armies were at first directed to remain on the defensive pending the development of the Rahovo enterprise. With this object the Second Army, attacking in two directions and its three divisions much dispersed, was ordered to concentrate towards Brasov, the idea being to form a firm pivot so as to permit the Fourth Army to continue its successful advance so soon as the necessary reinforcements were available. It was thus hoped to retain some initiative in Transylvania. It was quickly seen, however, that the Rahovo offensive was not going to meet with sufficient success to affect the situation generally, and fears for the city of Bucharest compelled the withdrawal of the 21st and 22nd divisions.

For the moment the Rumanian primary concern was to secure the position of the Second Army, otherwise the Fourth Army would be in danger of isolation, its right flank also being in the air owing to the complete inactivity of the Russians.

The Rumanians appear to have oscillated for some days between the above plan and a complete abandonment of Transylvania, until the battle of Brasov settled the question definitely for them.

The German Plan.

With the retirement of the bulk of the First Rumanian Army across the frontier, its Petroseni detachment was left in the air, and ceased to affect the general situation. The German general staff had, therefore, the choice before them of an immediate advance into Wallachia in pursuit of the First Army or to turn against the Rumanian Second Army.

The former alternative does not appear to have been seriously considered by Hindenburg, presumably because the pressure exerted by the Fourth Rumanian Army (and to a lesser extent by the Second Army) was already threatening the railheads in the Maros and the two Tarnava valleys, and therefore the main communications of the Austro-Germans in Transylvania. (*See* map number 3.)

In the general defence of the Rumanian frontier the Fourth Army was thus continuing to pull its weight, and apparently it was not yet clear to the Germans that, both tactically and strategically, the initiative had passed to them. No doubt the hope of marching from Brasov direct

on Bucharest was at the back of Hindenburg's mind, and Mackensen was not yet ready to cross the Danube.

Actually, orders for a subsequent concentric attack on Brasov and the Second Rumanian Army had been issued by Hindenburg on 24th September, *i.e.*, before the commencement of the battle of Sibiu.

Still, it is an interesting strategic question to consider what might have been the effect on Rumanian nerves of a German irruption into Wallachia at the end of September--an operation which was only effected after much fighting and loss two months later.

Might it not have been an even more certain method of clearing Transylvania than an attack on the Second Army?

The plan actually adopted was by a rapid advance of the Ninth Army up the Olt to seize the passes in rear of the Second Rumanian Army, round up the latter, and then march direct on Bucharest.

It is not proposed to follow the operations in any great detail as they led to no decisive result, but merely to give a general outline.

Falkenhayn's original intention was to relieve the Alpine corps by the 51st Austrian division, with a view to using that *corps d'élite* for another outflanking movement through the mountains against the communications of the Second Army.

Successful attacks by the latter, however, on the 29th, which penetrated as far as the Haar, threatened to separate him from the Austrians on his left, and caused such alarm and despondency amongst the latter that he could not wait to relieve the Alpine corps nor to collect the detachments of his other three divisions which were following the 13th and 23rd Rumanian divisions through the Red Tower pass.

With his three divisions (76th reserve, 51st Austrian, 187th) covered by the cavalry, Falkenhayn marched up the Olt. The Austrian Army on his left was placed under his operational control and its right corps (89th German and 71st Austrian divisions) was to attack Brasov from the north. This would tend to draw that corps away from the commander of the First Austrian Army, operating against the Fourth Rumanian Army further north.

As the country round Brasov was considered unsuitable for cavalry, the bulk of the latter was to move round north of it to fill the gap, and cut the passes behind the Fourth Rumanian Army.

The plan aimed at no less than the encircling of both the Second and Fourth Armies, their defeat west of the frontier, and the opening of the latter on a wide front for an advance on Bucharest.

The Rumanian 4th division retiring in front of the Germans—who were delayed by bad weather—occupied a position on the western edge of the Geisterwald running through Comana–Persiani and thence along the Sinca.[1]

Here it was reinforced by a brigade of all arms of the 6th division.

[1] The name given to the ensuing battle is the battle of Sinca by the Rumanians, and the battle of the Geisterwald by the Germans.

The Germans attacked on the morning of 5th October, and finding that the 51st (Austrian) division and 76th reserve division were confronted by strong positions, the 187th was directed to turn the Rumanian right in the direction of Grid. A combined attack by all three divisions eventually ejected the Rumanians, despite several gallant counterattacks, which were shattered by the concentrated fire of the German artillery.

By the afternoon the Rumanians were retreating into the wooded hills, leaving 43 guns in the enemy's hands, including all those belonging to the 6th division.

The Battle of Brasov (Kronstadt). (October 7th–8th.)

His success on 5th October encouraged Falkenhayn in the belief that the Second Rumanian Army might be annihilated by an encircling movement from both flanks, although obviously this would be rendered difficult by the fact that several passes led out of the Brasov basin.

In pursuance of this plan the First Austrian Army on his left was to follow the Fourth Rumanian Army with weak detachments only, since no great success could be anticipated in the narrow valleys through which the latter was retiring.

The cavalry corps, so far as the state of its horses permitted, was to operate against its flank with the dual object, if possible, of cutting its communications and preventing it from giving any assistance to the Second Army.

Under this screen the 89th and 71st (Austrian) divisions were to make a sweep and come in against Brasov from the north and north-west.

The XXXIX. corps (76th Reserve, 51st (Austrian), and 187th divisions) was to attack in an easterly direction so as to envelop the town from the south, the enveloping nature of the attack being emphasised by the despatch of specially selected detachments to seize the Predeal pass and so cut the main Rumanian line of communication. The 8th Austrian mountain brigade from the Izonzo, which had detrained at Sibiu on the 5th, was ordered to push forward along the crest of the frontier range to the Königstein with a similar object.

The Rumanians had originally intended to evacuate Brasov and fall back to the frontier fortifications. They had actually commenced the retirement on the night 6th/7th when the arrival of the 21st and 22nd divisions at Predeal and Campulung caused them to change their mind. The troops were countermarched and a position was occupied by the 3rd, 4th, and 6th divisions, its right on the Olt near Harman, thence in front of Brasov to Zernesti. On the extreme right towards Sepsi St. George was a brigade of the 6th division, and further north a detachment from the 2nd cavalry division with some infantry from the Fourth Army.

The arrival of the leading brigade of the 22nd division from near Campulung on the 7th enabled the left to be extended just in time.

The German attack opened on the 7th October, and the 187th and 51st Austrian divisions made good progress, as the position was not fully occupied by the Rumanians. Harman and Sampietru were taken, but in the afternoon Rumanian counterattacks drove the Germans back and re-established the position.

Falkenhayn states that these counterattacks caused him no anxiety, as the further the Rumanian right wing advanced, the more effective would be the counterattack of the 89th and 71st (Austrian) divisions when it developed. Their movement had, however, been delayed by the natural difficulties of the country and by the poor marching powers of the 89th division.

On the German right but little progress had been made, thanks to the arrival of the leading brigade of the 22nd division, which occupied the D. Muscelului and defeated all efforts to eject or outflank it.

October 8th. Second Day of the Battle of Brasov.

During the night a brigade of the 21st Rumanian division, whose artillery was already in action, had been put into the line in the centre. The Germans at first fought their way forward, but in the afternoon the Rumanians passed to the offensive in the centre and right. The 6th division attacking from the north-east threatened to roll up the German left, which was also attacked frontally by the 3rd division. The situation of the 187th division became far from pleasant, and the 89th division was told to hasten its movements. It did not, however, succeed in intervening effectually owing to weariness, bad reconnaissance and broken bridges, and at nightfall its head was only entering Bot. The 71st (Austrian) division was still completely out of the hunt.

Further north the so-called 3rd German cavalry division (three regiments) was easily held by the Rumanian mixed detachments from the Fourth Army, whilst the 1st Austrian cavalry division had been quite unsuccessful in its attempts to interfere with the retirement of the Fourth Army.

Against the Rumanian left, however, the attack had made great progress, and at one period it looked as if the Rumanian main line of retreat would be cut, as at the Red Tower pass.

A considerable concentration of artillery had been effected against the Rumanian positions on D. Musculului, and as soon as it opened fire the defence melted away.

The Germans pursuing, captured the heights on either side of the Bran pass, and the way to Campulung seemed open. Orders were sent to the 8th mountain brigade to bear to the right and make for the Bran Pass road further down the mountains behind the Rumanians. A detachment of two battalions with some artillery was also despatched to cut the Predeal pass. The Rumanians, remembering the Alpine corps at Sibiu, were not, however, to be caught twice in the same way, and a brigade of the 21st division sent up from Predeal made short work of

the two battalions and re-occupied the Postovar, thus covering their communications.

October 9th.

Falkenhayn's orders for the 9th included a continuation of the attack, and the despatch of the 3rd German cavalry division towards the Oituz pass.

G.H.Q.'s ideas were even more ambitious, as at this juncture they issued orders to Falkenhayn to seize the passes round Brasov and also to despatch infantry and cavalry to Onesti in the Trotus valley, with the dual object of cutting the line of communication of the Fourth Army and of preventing the arrival of any Russian reinforcements by the Trotus valley railway.[1]

It would appear that the Germans might have been better advised to have made certain of completing one operation before initiating another, for on the night of the 8th/9th the Rumanians effected their retirement to positions covering the passes leading from the Brasov basin, before the enveloping attack of the 89th and 71st Austrian divisions had started. Nor did the 8th Austrian mountain brigade get up in time to take any part in the battle.

Falkenhayn failed, therefore, in his attempt to effect a concentration of all his forces on the battlefield, and had the Rumanian Army possessed the power to strike a powerful blow quickly, their counterattack on the 8th might have dealt hardly with him, whilst nearly half his forces were absent from the battlefield. As it was, it resulted in heavy Rumanian casualties, incommensurate, perhaps, with the results obtained.

Still, though the Rumanians had suffered heavily both in men and material, they had slipped out of the net, after effecting the evacuation of most of the stores at Brasov and seeing the Fourth Army safely withdrawn. Moreover, they still blocked the passes leading to Bucharest, and the hardest part of Falkenhayn's task lay before him.

Up to this point his operations had been uniformly successful. In less than a month he had succeeded in throwing a numerically superior enemy on to the defensive and had practically cleared Transylvania.

That this result was due largely to superiority in communications, mobility and every technical adjunct to modern warfare is undeniable. Still, the operations of the Ninth German Army form a model of how a mountain range may be defended, just as the Rumanian plan emphasises by its failure the danger of concentrating isolated columns forward in the presence of an enterprising and mobile enemy.

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[1] The 71st division was eventually ordered to follow the 1st Austrian cavalry division to carry out this task.

APPENDIX A.

RUMANIAN EFFECTIVES MOBILISED OR MOBILISABLE ON THE DECLARATION OF WAR IN AUGUST, 1916.

		Officers.	Other Ranks.
A. (*a*)	Field Army	13,561	562,847
(*b*)	L. of C. troops for Field Army	1,707	59,051
	Total Field Army	15,268	621,898
B.	Depôts	4,575	191,869
C.	Men excepted on mobilisation or put back, but available if required :—		
	(*a*) Trained	—	82,993
	(*b*) Exempted or put back	—	102,117
	(*c*) Temporarily unfit, but called up later	—	25,900
	(*d*) Contingent of 1917 (actually joined in Oct.)	—	55,545
		—	266,555
	Grand Total	19,843	1,080,313

Categories A and B were mobilised at the commencement.

Category C was incorporated in the field army during 1916 and the following winter, to replace casualties.

Thus the total mobilised for the field army amounted to 1,080,313.

Men over 42 and between 19 and 21 years of age who were employed in non-combatant duties are not included in the above total.

The 1918–1919 classes were also called up in the winter of 1916–1917 to the number of 110,000.

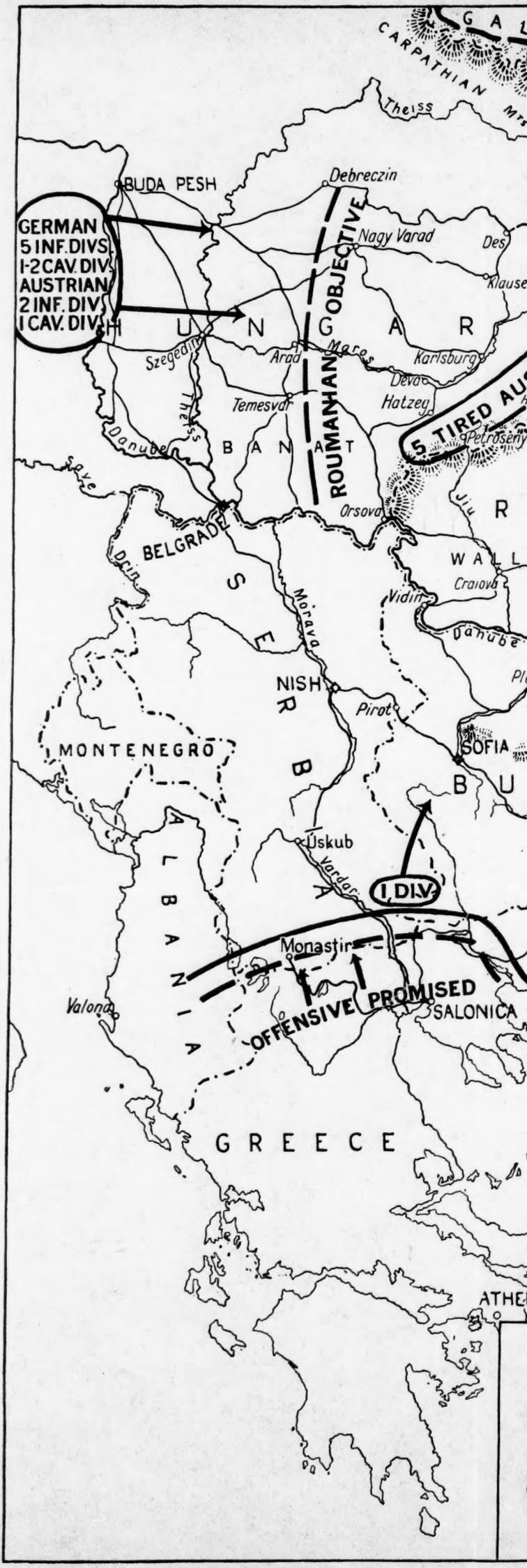
(To be continued.)

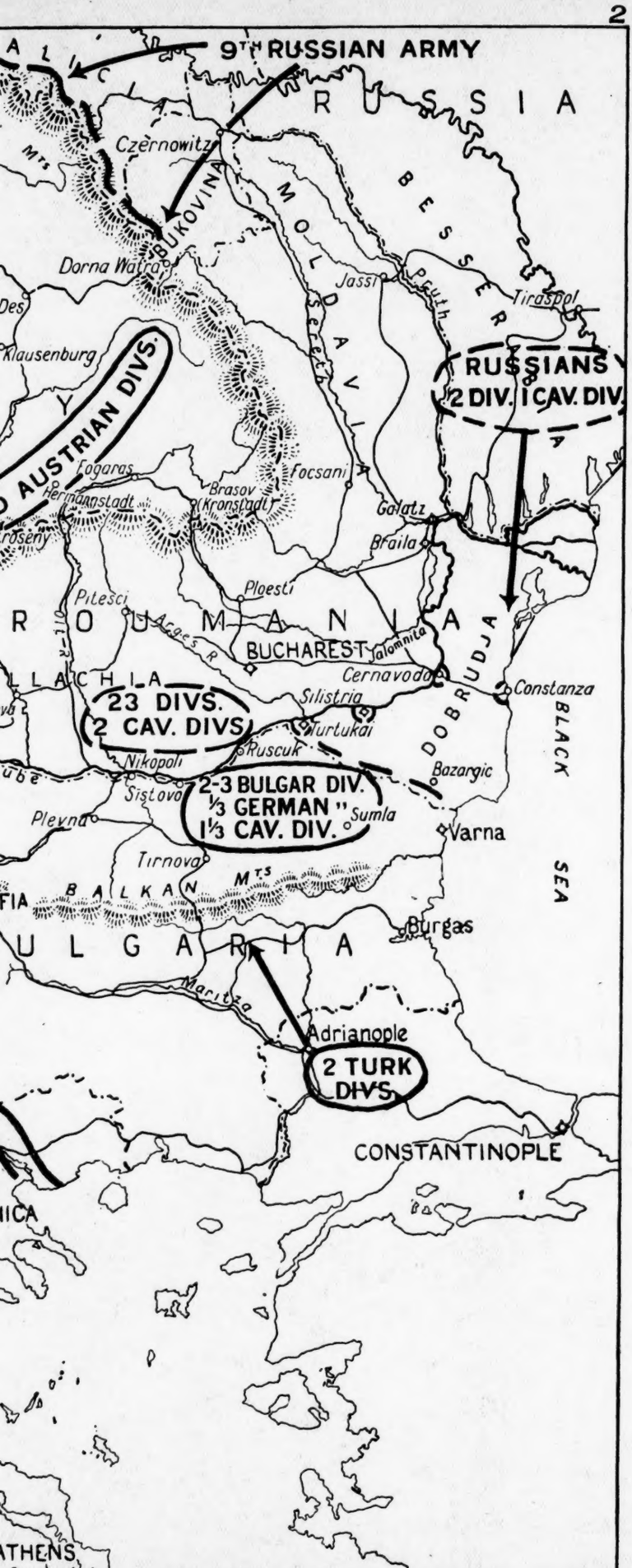
Panorama

Post-war Frontier.

ama of Rumania

Map I.


CARPATHIAN
Theiss
BUDA PESH
Debreczin
GERMAN
5 INF. DIVS.
1-2 CAV. DIVS.
AUSTRIAN
2 INF. DIV.
1 CAV. DIV.
OBJECTIVE
Nagy Varad
HUNGARY
Szegedin
Arad
Maros
Karlsburg
Deva
Hatzeg
Temesvar
ROUMANIAN
5 TIRED AU
Petroseny
Danube
BANAT
Save
Orsova
BELGRADE
Drin
SERBIA
Morava
Craiova
Vidin
Danube
NISH
Pirot
MONTENEGRO
SOFIA
Uskub
Vardar
1 DIV.
Monastir
ALBANIA
Valona
OFFENSIVE PROMISED
SALONICA
GREECE



GENERAL SITUATION

WHEN

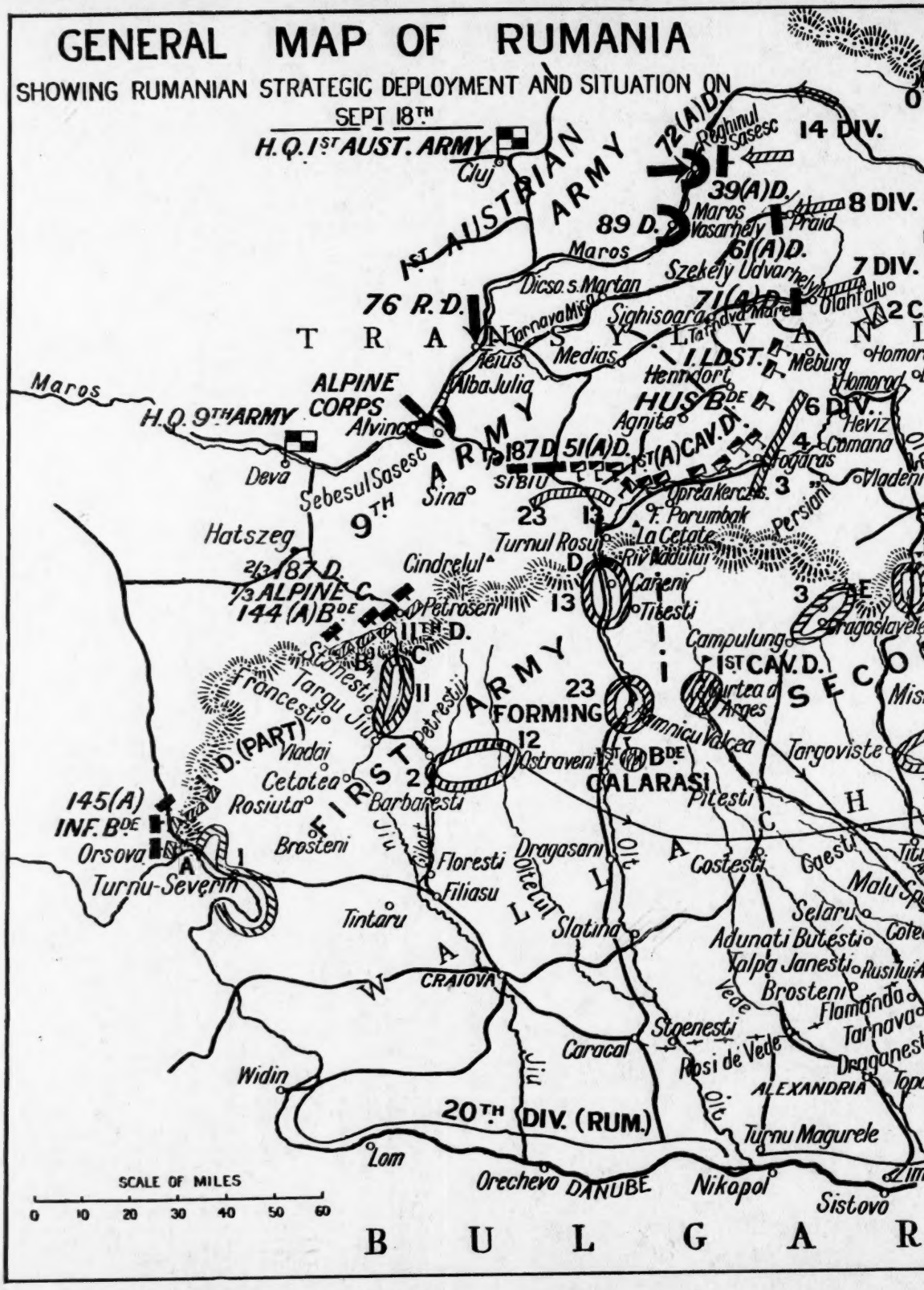
ROUMANIA ENTERED THE WAR

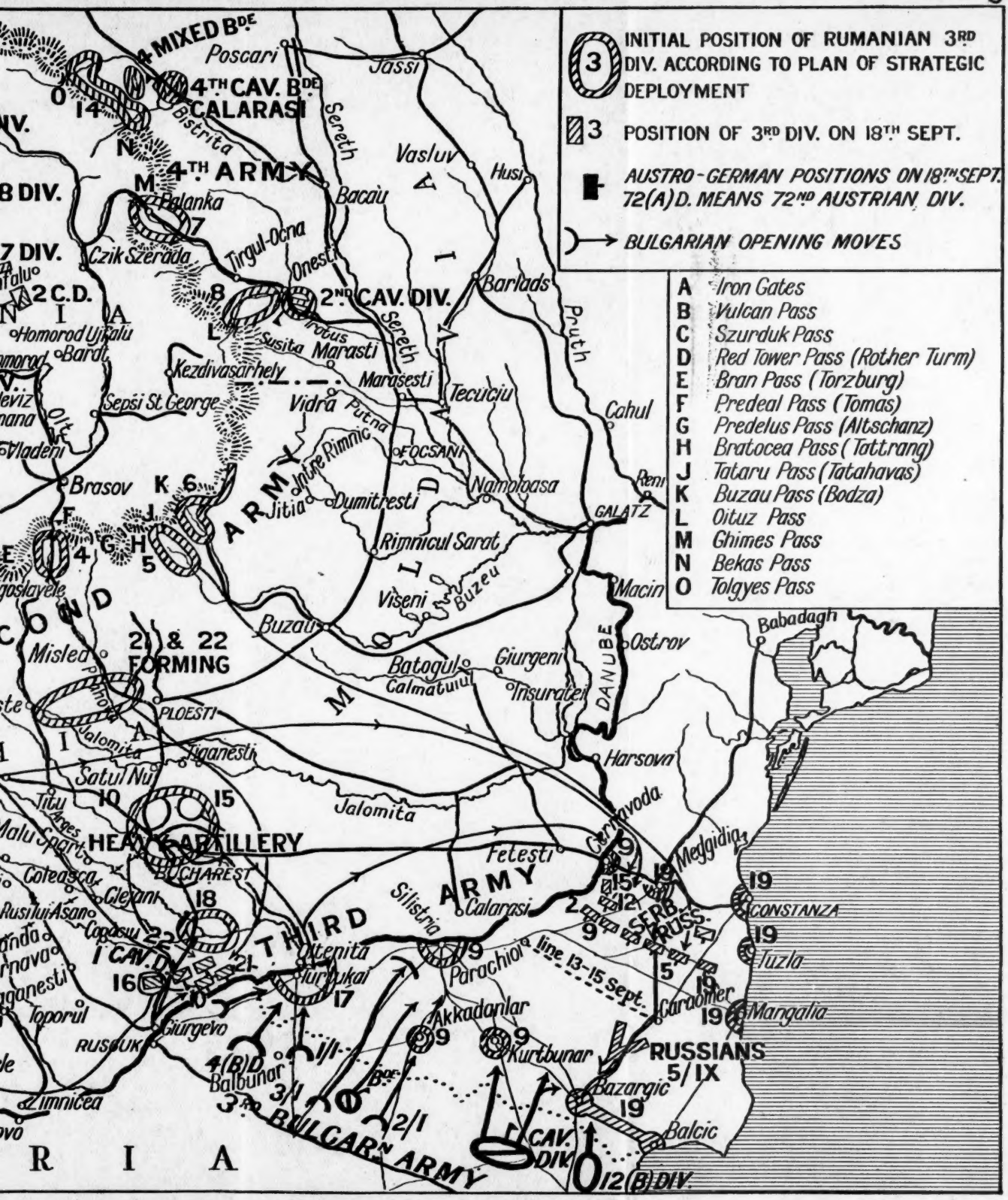
ALLIES

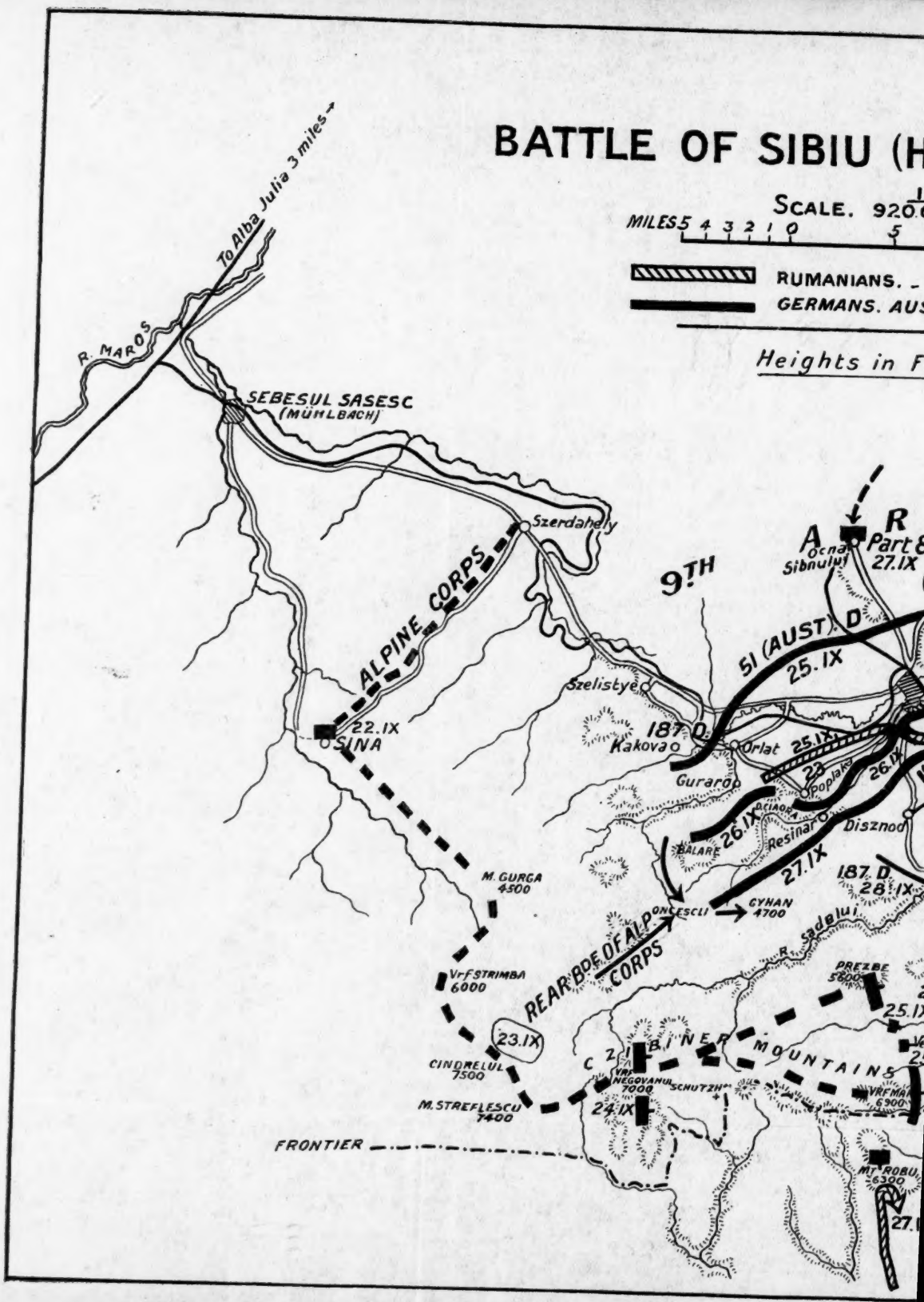
ENEMY

Scale of Miles

40 20 0 70 140


GENERAL MAP OF RUMANIA
SHOWING RUMANIAN STRATEGIC DEPLOYMENT AND SITUATION ON
SEPT 18TH
H.Q. 1ST AUST. ARMY
Cluj
1ST AUSTRIAN ARMY
72(A)D.
Reghinul Sasesc
14 DIV.
39(A)D.
8 DIV.
89 D.
Maros Vasarhely
Praid
61(A)D.
7 DIV.
Maros
Dicso S. Martan
Szekely Udvarhely
76 R.D.
71(A)D.
Sighisoara
2 C
TRANSYLVANIA
Medias
I. LDST.
Meburg
Homorod
Maros
ALPINE CORPS
Alvinc
Alba Julia
HUS B.DE
6 DIV.
H.Q. 9TH ARMY
Agnita
Heviz
Comana
187 D.
51(A)D.
1ST(A)CAV.D.
Fagaras
Deva
Sebesul Sasesc
SIBIU
Sina
3
Vladeni
9TH ARMY
23
13
Porumbak
Persiani
Hatszeg
Turnul Rosu
La Cetate
Riv Nadului
2/3 187 D.
Cindrelul
1/3 ALPINE C.
144 (A) B.DE
Petroseni
Carpeni
Titesti
3
11TH D.
Campulung
1ST CAV.D.
Targu Jiu
Francesti
23
FORMING
Curtea d Arges
SECO
Mis
Viadai
12
Ramnicu Valcea
Targoviste
D.(PART)
Ostroveni
1ST (A) B.DE
Cetatea
2
CALARASI
145(A) INF. B.DE
Rosiuta
Barbanesti
Pitesti
H
Orsova
Brosteni
Floresti
Dragasani
Costesti
Goesti
Turnu-Severin
Filiasu
Malu
Tintaru
Slatina
Selaru
Adunati Butesti
Cote
Talpa Janesti
Rusilui
CRAIOVA
Brosteni
Flamanda
Vede
Tarnava
Stoenesti
Caracal
Rosi de Vede
Widin
ALEXANDRIA
20TH DIV. (RUM.)
Turnu Magurele
Lom
SCALE OF MILES
0 10 20 30 40 50 60
Orechevo
DANUBE
Nikopol
Sistovo
BULGAR


3 INITIAL POSITION OF RUMANIAN 3RD DIV. ACCORDING TO PLAN OF STRATEGIC DEPLOYMENT
3 POSITION OF 3RD DIV. ON 18TH SEPT.
AUSTRO-GERMAN POSITIONS ON 18TH SEPT. 72(A)D. MEANS 72ND AUSTRIAN DIV.
BULGARIAN OPENING MOVES
A Iron Gates
B Vulcan Pass
C Szurduk Pass
D Red Tower Pass (Rother Turm)
E Bran Pass (Torzburg)
F Predeal Pass (Tomas)
G Predelus Pass (Altschanz)
H Bratocea Pass (Tattrang)
J Tataru Pass (Tatahavas)
K Buzau Pass (Bodza)
L Oituz Pass
M Ghimes Pass
N Bekas Pass
O Tolgyes Pass
4TH MIXED BDE
Poscari
Jassi
4TH CAV. BDE
CALARASI
Bistrita
Sereth
Vasluv
Husi
4TH ARMY
Palanka
Bacàu
Tirgul-Ocna
Czik Szerèda
Onesti
2ND CAV. DIV.
Barlads
Pruth
Homorod Ujfalu
Susita
Marasti
Kezdivasarhely
Marasesti
Tecuciu
Sepsi St George
Vidra
Putna
Cahul
FOCSANI
Jatile Rimnic
Brasov
Jitia
Dumitresti
Namoloasa
Reni
GALATZ
Rimnicul Sarat
Macin
Viseni
Buzeu
Buzau
Babadagh
Misleà
21 & 22 FORMING
Batogul
Calmatuiul
Giurgeni
Insuratei
DANUBE
Ostrov
PLOESTI
Jalomita
Tiganesti
Satul Nu
Harsova
Jalomita
HEAVY ARTILLERY
BUCHAREST
Fetesti
Cernavoda
Megidia
Silistria
ARMY
Calarasi
SERB.-RUSS.
CONSTANZA
Tuzla
Turtukai
Parachioi
line 13-15 Sept.
Caraomer
Mangalia
Akkadanlar
Kurtbunar
RUSSIANS 5/IX
Giurgevo
RUSCUK
Balbunar
Bazargic
Balcic
Timnicea
BULGARIAN ARMY
CAV. DIV.
12(B) DIV.

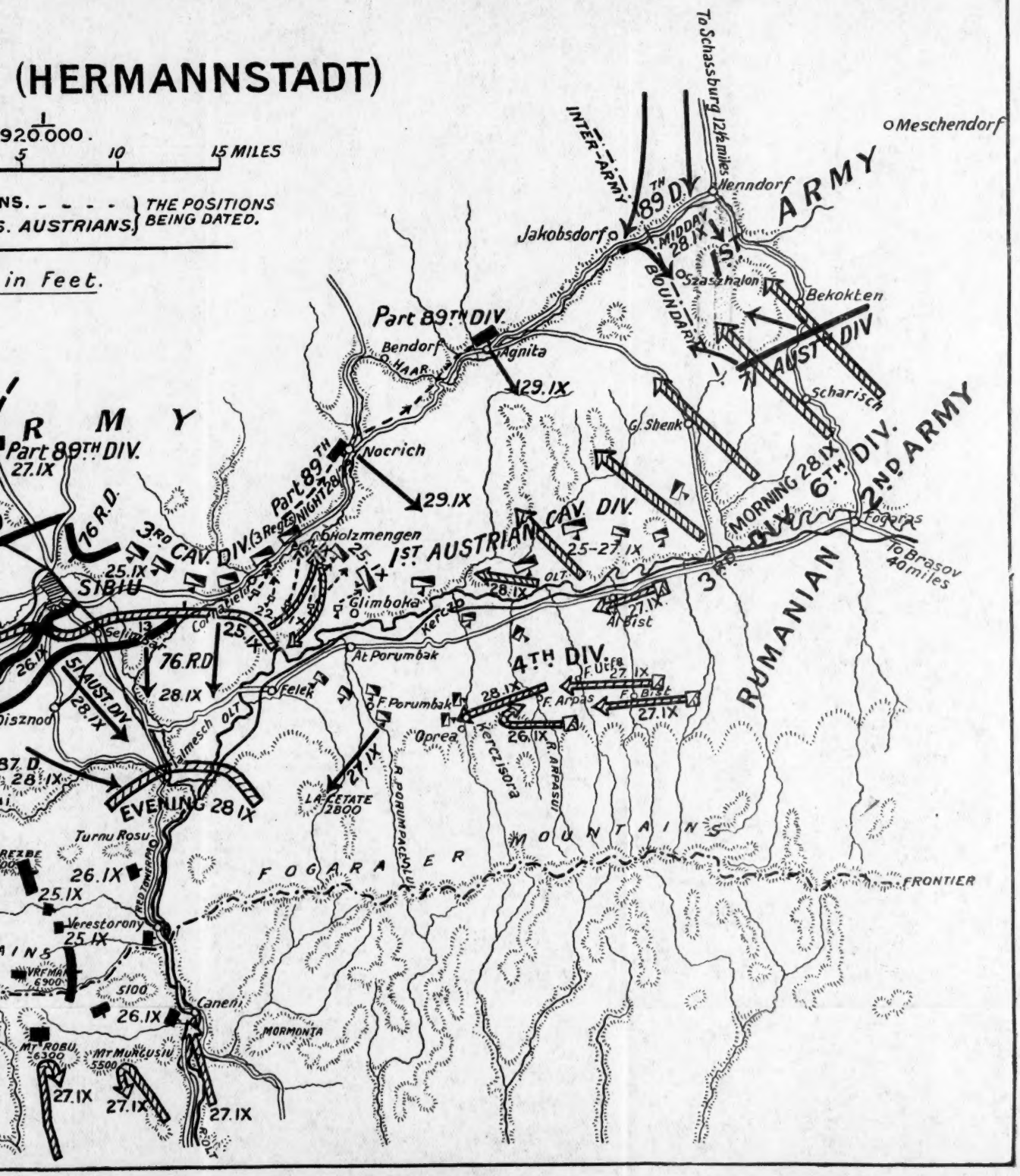

BATTLE OF SIBIU (H
SCALE. 92
MILES 5 4 3 2 1 0 5
RUMANIANS.
GERMANS. AUS
Heights in F
To Alba Julia 3 miles
R. MAROS
SEBESUL SASESC
(MÜHLBACH)
Szerdahely
ALPINE CORPS
9TH
Ocna Sibiului
Part 8
27.IX
51 (AUST.) D
25.IX
Szelistye
187 D.
Kakovo
Orlat 25.IX
22.IX
OSINA
Gurarop
Poplaca
26.IX
Disznod
BALARE
Resinar
27.IX
187. D.
28.IX
M. GURGA
4500
CYHAN
4700
REAR BDE OF ALP
CORPS
R. Sadului
Vr F STRIMBA
6000
PREJBE
5600
23.IX
CINDRELUL
7500
VRF NEGOVANUL
7000
SCHUTZH
M. STREFLESCU
7400
24.IX
FRONTIER
MT ROBU
6300

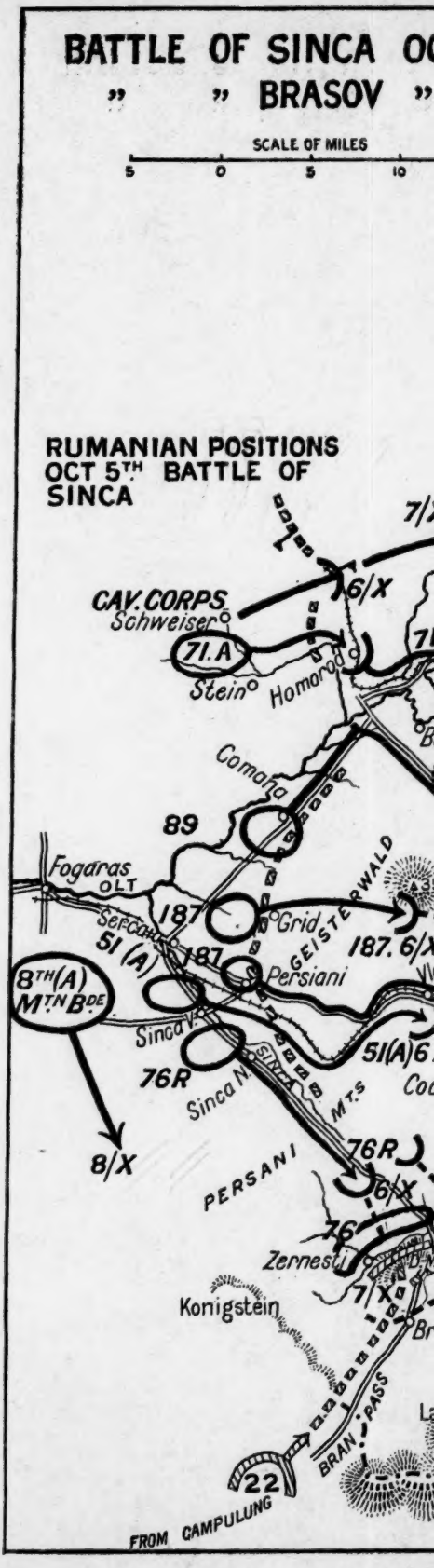
(HERMANNSTADT)

1/92.0.000.
5 10 15 MILES

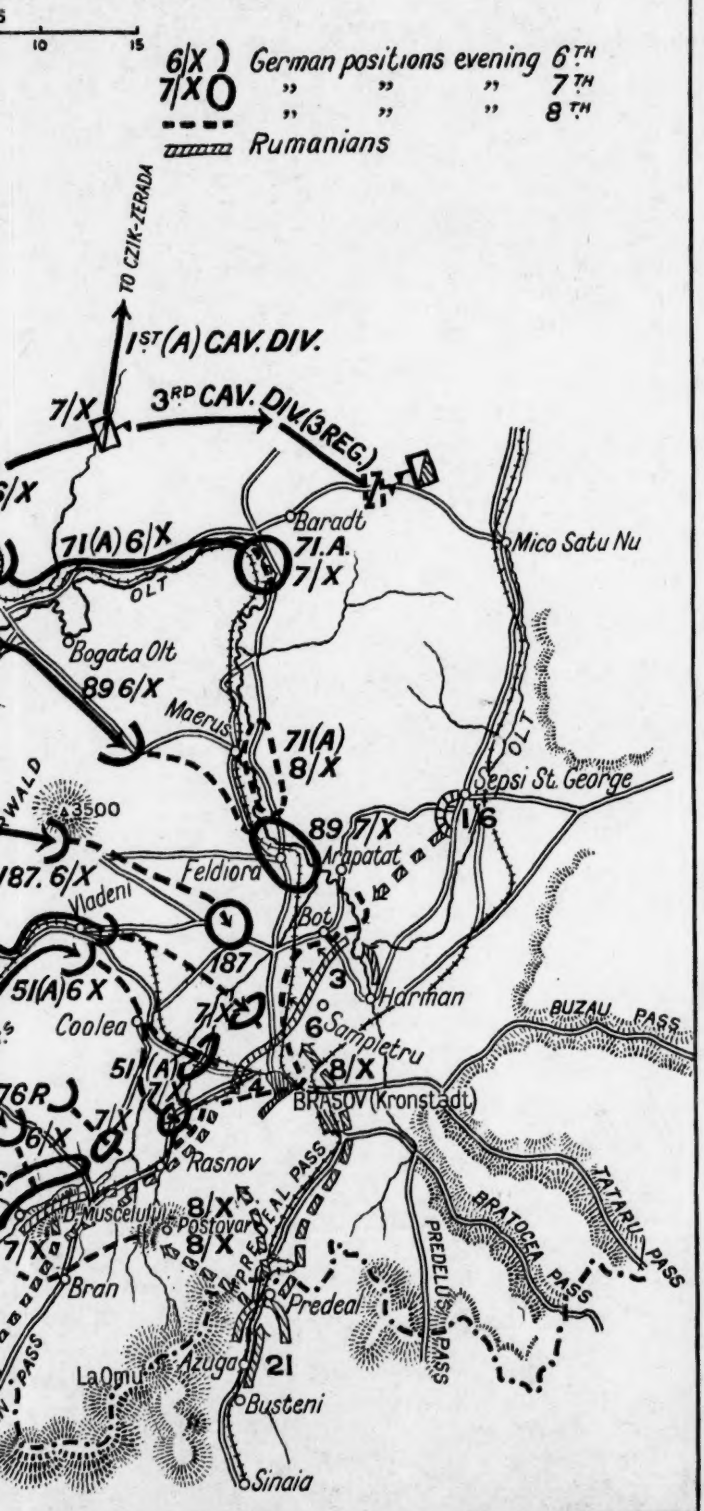
NS. - - - - } THE POSITIONS
S. AUSTRIANS. } BEING DATED.

in Feet.




BATTLE OF SINCA OC
" " BRASOV "
SCALE OF MILES
5 0 5 10
RUMANIAN POSITIONS
OCT 5TH BATTLE OF
SINCA
CAV. CORPS
Schweiser
71. A
Stein
Homorod
Comana
89
Fogaras
OLT
187
Grid
Persiani
51 (A)
8TH (A)
MTN BDE
Sinca V.
Sinca N.
76R
8/X
PERSANI
6/X
Zernesti
Konigstein
7/X
BRAN PASS
22
FROM CAMPULUNG

A OCT. 5TH
V " 7TH-8TH



SOME STRATEGICAL PROBLEMS OF THE FIRST PHASE OF THE WAR BETWEEN RUSSIA AND JAPAN.

By MAJOR-GENERAL SIR W. D. BIRD, K.B.E., C.B., C.M.G., D.S.O.

AN intense conflict of interest between nations is in general the prime cause of war. In recent history this conflict has also at times been due to the drive of those compelling forces which oblige a teeming population to overflow beyond its previously settled boundaries. Encroachment, therefore, or the threat of it, has commenced on one side, resistance on the other; and it was in such a clash of vital interests that war was generated between Russia and Japan twenty years ago. In order that the course of the events that took place during its first phase may be understood, it is necessary, in consequence, to explain briefly how their fierce struggle came about for the control of the territory which adjoins the islands of Japan on the mainland of Asia.

In past centuries the Japanese had made habitual incursions into Korea, and also into Manchuria, but after successes that varied in importance, and an occupation that was either short or prolonged, they had always been driven back to their islands by the Chinese. Korea and Manchuria, therefore, were the historical lines of Japanese expansion. (Map 1.)

The Russians first appeared in the Far East in 1860, when the Amur province and Vladivostock were wrested by the Czar from the weakening hold of the Chinese empire. At this time Japan was still under a feudal system, the country, although nominally ruled by the emperor, being in reality under the unbridled power of nobles called Daimios and their armed Samurai retainers. In 1868 the nation rose against the Daimios, who were overthrown after a bitter conflict. Seven years later the Russians occupied Saghalien, an event which not unnaturally threw the Japanese, who were even then a comparatively backward race, into a state of some alarm.

Having closely observed the Europeans, and concluding that their strength was mainly due to armament and organisation and the use of machinery, the Japanese now resolved that they would do their best to avoid the fate of the Amur province and Saghalien by breaking abruptly with the past, and organising the country, government, navy and army on European principles. Numbers of Japanese, therefore, were sent to Europe for the purpose of assimilating Western ideas and methods, and European teachers were also brought into Japan. The effect of this progressive policy was phenomenal, and so great was the increase that followed both

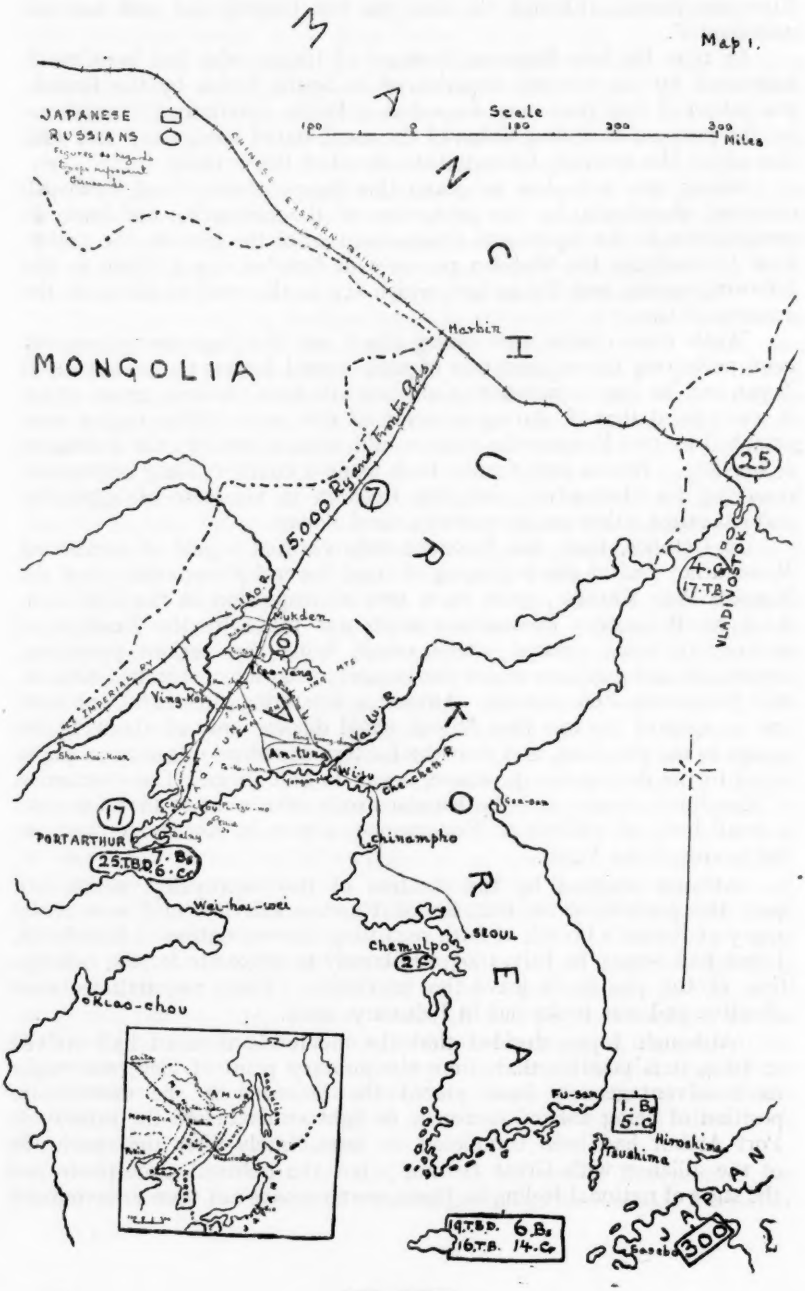
in the population and in its material prosperity, that the Japanese appear to have felt, about the year 1890, that in a world where men best deserved to hold who knew the surest way to get, it had become imperative for them to make certain of one avenue at any rate of expansion. Grave but legitimate fears had now also been aroused lest Korea, which, under the suzerainty of China, was inhabited by a physically fine but in spirit decadent race, should fall into the hands of the Russians. It seems that the Japanese resolved, therefore, at least to make themselves paramount in the Korean peninsula.

The resistance of the Chinese was quickly overcome in 1894, and China ruefully concluded a peace on the 30th April, 1895, under which Korea was declared to be independent, the Kuan-tung peninsula—that is, the area between Chin-chou and the fortress of Port Arthur—was leased to Japan, and the payment of a large indemnity was promised. Three of the world's then greatest Powers, Russia, France and Germany, now brought irresistible pressure to bear on the Japanese, obliging them in impotent anger to relinquish their conquests.

Meanwhile in 1891 the Russians had begun to lay a railway across Siberia for the purpose of linking their possessions in the Far East more closely with their European territory; and by 1895 the line had almost reached Lake Baikal. It was at that time, and apparently the wish has even now not faded away, a pronounced feature of Russian policy that national welfare demanded the possession of a port on the open sea which was not ice-bound in winter; and the existence of this instinctive longing seems to have been turned to account by a group of leading men in Russia for the purpose of persuading the Government to take up the project of obtaining either a harbour which was free of ice in Southern Manchuria, or of securing the control of the passages that lead from the ice-closed port of Vladivostock to the ocean. The Japanese, however, had kept a sullen watch on the Russians, and, seeing in their manœuvres only a direct threat to the freedom of Japan, had commenced, about the year 1895, with earnest determination, to prepare themselves for a struggle of life and death.

Soon afterwards Russia took a step which was to have a dangerous end. Permission was, in 1896, wrung from the Government of China, which was without the military means to resist this, that an extension of the Trans-Siberian railway, the so-called Chinese eastern railway, should be carried through Manchuria (by a diplomatic fiction the province was regarded as being a kind of subsidiary principality, not an integral part of China itself) in a straight line from Chita to Vladivostock, instead of eastwards and then along the left bank of the Amur. In 1898 the Russians again made another long stride on the road of provocation, by obtaining a lease from the Chinese of Port Arthur and of the southern portion of the Liao-tung peninsula. At the same time the construction of a branch railway from a point near Harbin to Port Arthur was imperiously commenced, and by 1900 the fortress was in direct communication by rail, or steamer on Lake Baikal, with

Map 1.


JAPANESE
RUSSIANS
Figures as regards Russian represent Garrisons
Scale
100 0 100 200 300 Miles
CHINESE EASTERN RAILWAY
MANCHURIA
MONGOLIA
Harbin
15,000 Ryuni Frontier Posts
Mukden
LIAO R.
Ying-Kau
Liao-yang
Yen-tai Coal Mines
Shan-hai-kwan
An-tung
Wiju
Yalu R.
Tae-chen R.
PORT ARTHUR
25 T.B.D. 7 B. 6 C.
Wei-hai-wei
Chinampho
Chemulpo
SEOUL
2 C.
Kiao-chou
KOREA
VLADIVOSTOK
4 C. 17 T.B.
25
Fu-san
1 B. 5 C.
Hiroshima
Tsushima
JAPAN
Sasebo
300
19 T.B.D. 6 B.
16 T.B. 14 C.

European Russia, although the line was but roughly laid and was still unballasted.

In 1900 the late Empress Dowager of China, who had been much impressed by the reverses experienced in South Africa by the British, the nation at that time most respected in Pekin, determined to use force for the purpose of ridding China of the much-hated foreigners; and with this object she unwisely fomented the so-called Boxer rising.

Russia was not slow to grasp this happy chance, and forthwith occupied Manchuria for the protection of the railways; but later, in consequence of the diplomatic representations of the Powers, she undertook to evacuate the Mukden province in October, 1902, Kirin in the following spring, and Tsi-tsi-har, which lay to the west of Kirin, in the autumn of 1903.

While these events were taking place, and the Japanese had openly been perfecting the organisation of their armed forces, the statesmen of Japan had, in 1902, concluded an alliance with Great Britain, under which it was agreed that if, during a period of five years, either nation were attacked by two Powers, the other would come at once to the assistance of her ally. Russia and France then made a countervailing agreement, reserving for themselves complete freedom in the case of aggressive action against either on the part of a third Power.

In October, 1902, the Russians duly vacated a part of south-west Manchuria; but at the beginning of 1903 General Kuropatkin, then the Russian War Minister, went on a tour of inspection in the Far East. As a result another momentous move was made by the Russians, a viceroyalty being created which would bring the various provinces, commands and garrisons under the central authority of Admiral Alexiev, who was nominated viceroy. Alexiev, a blustering personality, at once and in spite of the fact that Russia could dispose only of about 75,000 troops in the Far East, and that the Eastern squadron was only on paper equal to the fleet of the Japanese, began to bait them. The evacuation of Manchuria ceased, and the Russians soon even went so far as to send a small body of soldiers to Yongampho, a port in Korean territory at the mouth of the Ya-lu.

Already alarmed by the creation of the viceroyalty, which had been the prelude of an increase of Russian activity, and now really angry at Russia's breach of faith regarding the evacuation of Manchuria, Japan had begun, in July, 1903, stubbornly to negotiate for the redemption of the pledge to leave the province. These negotiations were abortive and war broke out in February, 1904.

Although Japan decided that the inevitable moment had arrived in 1904, it is possible that, from the military point of view, she might more advantageously have placed the Russians in the unfortunate position of being obliged to recede or fight either before the railway to Port Arthur had been completed, or immediately after the conclusion of the alliance with Great Britain; but the political atmosphere and the state of national feeling in Japan were perhaps not then so favourable

as was subsequently the case. Again, it seems that, in the military sense, the Japanese would have been better advised had they commenced hostilities—for the initiative lay with them and not with the Russians who politically were the aggressors—in the month of April, when the ports of Manchuria and Korea would all have been free of ice, rather than at the time that was actually selected. It is true that such a policy might have added to the bulk of the Russian squadron that was lying at Port Arthur four large cruisers that had been stationed at Vladivostock for the purpose of harrying the coasts of Japan; and the squadron in the Baltic, which was of about the same strength as that already in the Pacific, would not to some extent have been blockaded by ice, and, therefore, for this reason unable to sail at once for the Far East. But the Japanese could, by landing troops in the north of Korea, apparently have reached the Ya-lu at least as soon as actually was done; the Russians would not have been allowed an all-important period of nearly three months in which to collect troops before the first blow could be struck on land; and in the circumstances, the Japanese might have captured Port Arthur and overrun southern Manchuria before Russian forces had arrived in numbers in the theatre of war. It was, however, probably a mere threat on the part of the Russians to increase the size of the Far Eastern squadron, which would have turned the balance of naval power against them, that caused the Japanese to precipitate matters and to begin the war during the hard months of winter.

If Japan was well prepared for war, Russia, on the other hand, as has already been stated, was by no means so completely ready to support her aggressive policy; for, apart from the weakness locally of the fleet and army, the Trans-Siberian railway was incomplete in the rugged section round Lake Baikal, and neither this railway nor the Chinese eastern railway was as yet capable of heavy traffic. Moreover, the diplomatic situation in Europe and the internal condition of Russia were not such that the Russians could have afforded to send a tithe of their land forces to the Far East; and they might also well hesitate to deprive the Baltic coast of all effective floating defences. Possessed as she was of almost boundless resources in men, and of a navy which, in the aggregate, was twice as large as that of the Japanese, it would at first sight, nevertheless, appear that Russia must inevitably have crushed her daring opponent.

In 1904 the Russian armies contained in round numbers the huge total of 4,500,000 trained soldiers, of whom 3,500,000 were in the active army and reserve, 345,000 were Cossacks, and 685,000 belonged to the National Guard. The field troops, as is usual, comprised the units of the active army that would be brought up to the war establishment by the incorporation of reservists, but there were also certain reserve units, the cadres of which were maintained in time of peace and filled with reservists on mobilisation.

At the commencement of the war there were in Europe and the Caucasus twenty-five corps of the active army, in Russian Turkistan

two corps, in eastern Siberia and Manchuria two corps, and in the remainder of the empire a number of unallotted formations. A corps varied in size and composition according as it belonged to the European or Siberian establishment. A European corps comprised two infantry divisions, one cavalry division, corps engineers and administrative services, with a total establishment of about 28,000 rifles, 3,400 sabres and 124 guns, the field guns being in batteries of eight guns each, the horse in six gun batteries; and five of these corps took part in the war. Six so-called Siberian corps (two were composed of European reserve units, one of Siberian reserve units, and one partly of active troops and partly of reserve formations) and a rifle corps were also used, and none of these possessed corps cavalry, but Cossack divisions and smaller mounted formations were attached to them as required. The establishment of a Siberian corps might be from 22,000 to 28,000 rifles with from 64 to 80 guns. The establishment of an infantry division varied from 10,000 to 14,000 rifles, with from four to eight field batteries.

The armament of the artillery was heterogeneous, to say the least, and when hostilities commenced not more than one-third of the field batteries possessed a modern 3-inch quick-firing gun, which, moreover, had only just been issued to the troops. At that time, also, there were in Manchuria only a few mountain guns, but neither howitzers, nor heavy artillery, except in the fortresses. The Russian infantry and cavalry both possessed a ·299-inch charger loading rifle, and the men of the latter carried, in addition, swords, sometimes bayonets, and the front ranks had generally lances as well. Very few machine guns were available.

It cannot be said that the Russian army was well trained either in the theory or practice of war. There was also a deplorable lack of unity in the higher direction of the campaign, for the Viceroy and the Commander-in-Chief of the army in Manchuria were often in disagreement, and their differences were then referred to the Czar. Doubt and delay, therefore, clogged all the operations of the troops. The war, further, was unpopular both with the people and with all ranks of the army, few of whom had either interest in or understanding of the cause for which they were fighting.

Very different was the attitude of the people of Japan, where every individual was convinced that his utmost efforts were needed in order to save his country from destruction. Navy, army and civilian population struggled and toiled, therefore, in close and happy unison for the attainment of this end.

The army of the Japanese contained, in 1904, thirteen active divisions, and thirteen *kobi*, or reserve, brigades; and, in addition, four divisions and four *kobi* brigades were raised during the war. In the active army there were 180,000 serving soldiers and 200,000 men were on working furlough, and in the reserve army 200,000 men. There was also a conscript reserve of 50,000 trained and 250,000 untrained men, and behind these was the national army of men who had passed out of the other classes,

and then there were the men of 40 years and under who had not been called upon to serve at all.

Japan had, in a measure, depended upon European guidance in the training and organisation of her navy and army, since the pick of the younger officers had been attached for instruction to the armed forces of European Powers. If the Japanese held the British Navy in the highest esteem, it was to the German Army that the majority of the soldiers were sent, and the German model was, therefore, generally copied and faithfully imitated both in training, strategy and tactics.

A Japanese division included in its organisation two infantry brigades each of two regiments, and each regiment possessed three battalions. There were also one cavalry regiment of three squadrons, six 6-gun batteries, one battalion of engineers, one telegraph company and the usual administrative troops; and the total establishment was 11,400 rifles, 600 sabres, 36 guns, 750 engineers and 5,500 others. Six of the divisions were armed with mountain guns only, and one had no more than four batteries, two of field and two of mountain guns. A *kobi* brigade consisted of two or three regiments; and a mixed *kobi* brigade of two regiments, three batteries and one company of engineers and administrative troops. An artillery brigade was made up of three regiments each of six 6-gun field batteries; and a cavalry brigade of two regiments each of four squadrons, or 1,500 sabres, with six Hotchkiss machine guns organised in one battery.

Both field and mountain guns were of the same calibre, 2·95 in., and the former were semi-quick firing, but neither were provided with shields. There were twenty-four 4·7 in. field howitzers, and half a dozen heavy howitzers, and about one hundred medium guns and howitzers were used in the field after the fall of Port Arthur. The infantry carried a ·256 rifle, and the cavalry a sword and a carbine slung on the back of the trooper. Machine guns were not issued to the infantry until the war had for some time been in progress.

The Russian naval squadron in the Far East consisted of seven battleships of varying speed and armament, four armoured cruisers, five protected cruisers, two third-class cruisers, 25 destroyers, and 17 old torpedo boats; and, as has been stated, the whole, except the four armoured cruisers and 17 torpedo boats, were at Port Arthur. Little or no collective training was carried out and the squadron was by no means an efficient entity. Of the two defended ports, Vladivostock could boast of good docks, but possessed inferior workshops; while Port Arthur, with a fortified land frontage of about 18 miles, which was armed with 500 guns, 200 being of the medium or heavy class, had good workshops, but was without a dock that could take battleships. In Europe there were available for despatch to the Pacific, and mainly in the Baltic ports: 12 armoured vessels, eight of which were battleships (four being of recent construction), three coast-defence battleships, seven cruisers, five auxiliary cruisers and nine destroyers.

The fleet of the Japanese numbered six battleships of homogeneous type, and the speed of this squadron was, in the aggregate, at least two

knots higher than that of the enemy's battle squadron. In addition there were three old battleships, eight homogeneous armoured cruisers, 14 second-class protected cruisers, eight third-class protected cruisers, and also 19 destroyers and 85 torpedo boats which, on the whole, were, as regards power, individually superior to those of the Russians. The fleet was highly trained, and there were in Japan four well-equipped bases. On the other hand the Japanese were without reserves of fighting ships, and no yard existed in Japan where a battleship could be built. Of the resources of Japan's mercantile marine it is sufficient to say that its tonnage was, in the aggregate, about 650,000, and that the steamers numbered between 200 and 300.

Striking a balance between the forces that were available on either side, and having regard to their fighting value, it may be concluded that the Japanese possessed over the Russians certain advantages as regards spirit, training and naval material, and that larger numbers could in the first instance be placed in the field on land. Whether the Russians would be able to redress the balance would depend primarily on the rapidity with which the Japanese could strike effective blows.

II.

War has been defined as the pursuit of political aims by means of force, and this employment of force, in so far as the direction or management of the armed struggle is concerned, is termed " strategy." Strategical operations, in consequence, cannot be understood unless the political objects are known which it was desired to attain by their means.

As regards the Japanese, the course of the events which preceded the resort to arms in 1904 will already have shown that for them the political problem was how to substitute a Japanese for a Russian control of southern Manchuria, and how to prevent the advance of the Russians into Korea. For the Russians, on the other hand, it was how to obtain the control over the communications by sea between Vladivostock and Port Arthur and those leading from Vladivostock to the ocean; and, in addition, how to secure the definite possession of, not a tentative hold on, a port in the Far East which was free of ice in the winter—that is, of Port Arthur and Dalny, or of the harbours which exist on the southern coast of Korea.

War, of course, is a matter of fighting, and, in order to fight, armed forces must move. Something, therefore, must also be known of the seas and areas that were traversed by fleets and armies by anyone who wishes to study the manner in which they were managed in the past.

The coast-line of Manchuria and Korea from Shan-hai-kuan eastwards extends for a distance of 2,300 miles, of which 1,700 belong to Korea. Although in this long stretch there are many indentations, good harbours are few, except in the south of Korea. Elsewhere the coast is of a shelving character, with a flat, dreary shore of mud which slopes for miles gradually out to sea, and is hardly covered by water even when the tide is high.

Between Ying-kou (Newchuang) and Port Arthur there are five or six anchorages, but none possessed in 1904 facilities for the landing of guns, stores and supplies. Port Arthur is an ice-free and land-locked harbour of considerable extent, but the deep water is found only in continuation of its mouth; and this, although five or six hundred yards in width, possessed a fairway of not more than one hundred yards which could be used by vessels of deep draught. Thirty miles to the north of Port Arthur there is another large indentation, Ta-lien-wan bay, and at the south of this is Dalny (Dairen), a port which is open throughout the year, and where ships drawing 30 ft. of water could lie Landings could be effected at and near Pi-tzu-wo, which is also free of ice, in spite of the fact that there is no depth of water near the coast; but until Chemulpo is reached all other inlets and harbours are barred by ice during the winter months. There are, as has been stated, a number of bays on the southern coast of Korea, of which Fu-san was the best developed; and Gen-san on the east of the country is a good harbour which is usually without thick ice during the winter, but it is shut off from the interior by a range of steep mountains.

To the south and east of a line drawn from the neighbourhood of Kai-ping along the railway, Manchuria was covered by masses of rugged hills, the lower portions of which were either overgrown with plantations, were cultivated in rough terraces or more often fell in open stony slopes, but at their summits there were in general bare outcrops of solid rock. The ranges run in a north-easterly direction, are roughly parallel to one another, and are separated by valleys varying in width from 400 yards to one or two miles, in each of which a shallow stream ripples over its bed of pebbles. In the Liao-tung peninsula the summits of the hills are at highest 1,000 ft. above the levels of the valleys, but further inland the hill tops may rear themselves to an elevation which is twice or even three times as great. To the west of, and in sharp contrast with, the area of mountain, a rich and densely peopled plain spreads away westwards to the distant hills of Mongolia.

The principal of the many rivers that water the country are the Liao, Hun and Tai-tzu. The last is at Liao-yang from 100 to 300 yards in width, and, except when the stream has shrunk into a mere trickle during the dry winter months, is navigable by junks far above this city.

The Chinese cart, drawn by three or four mules, was in 1904 the transport that was used by the people of Manchuria. Every inhabited valley, therefore, possessed a track that could be traversed by carts, and tracks had also been worn over the hills in the places where there were passes that could be crossed by wheeled vehicles. Not one metalled road existed, however, in all Manchuria, and the Mandarin roads (those from Seoul and Port Arthur to Liao-yang, for instance) differed from the others only in that they were of greater width, and were, if possible, in more execrable condition as regards inequalities and ruts. During and after rainfall the surface of the roads became indeed so soft

that carts floundered down to their axles in the mud, and movement ceased, therefore, to be practicable without immense exertion.

Rain falls in Manchuria, as a rule, heavily in July, August and September, and is also not uncommon at the end of the winter. In October the soil freezes solidly to a depth of several feet, and the rough roads in consequence become as hard as iron until about the middle of March, when the scanty snow that has covered them generally melts and there is a slight thaw during the day. The thaw begins thoroughly in April, but the hot sun soon dries up the land, and the roads are then again practicable for traffic until the arrival of the rains.

Of the important railways that existed in or near the theatre of war, the first was the Chinese eastern railway, which ran for 200 miles through Russian, and for 950 miles in Manchurian, territory. The second was the Port Arthur branch, which reached Dalny in 600 miles and Port Arthur in 615 miles. Both of these lines were single and of five-feet gauge, the sidings and crossing places were about 10 miles apart, and the fuel that was burnt was wood, except in southern Manchuria where coal was used. On the Port Arthur branch there were 30 bridges that were 80 yards and upwards in length, those at Liao-yang and Mukden being more than 600 yards long, and there was a bridge near Harbin of more than half a mile. The carrying capacity in military trains of these lines was about six pairs in the twenty-four hours at first, and the number was eventually doubled. A train might consist of from 16 to 36 vehicles. The third line was the Imperial Chinese railway running through China proper from Pekin to Ying-kou, and this was a single line of British standard gauge. The railways of Japan, on the other hand, were of one metre gauge.

War, as has been pointed out, is in part an affair of movement, and the first requisite of success, therefore, is that a nation which is at war shall possess the power of communicating freely and without interruption both between its various provinces, with the theatre of war, and with the world beyond them.

Two main lines of communication were available, in 1904, by means of which to span the 5,000 miles that intervened between Russia and the territories which she held in the Far East, the trans-Siberian and other railways and the sea. Although possessing in the aggregate forces that were adequate to ensure the defeat of Japan, Russia's double responsibilities in Europe and in eastern Asia had involved their division, the bulk of the army and about half of the navy being, as has been stated, in Europe. And of the two lines by which force could be concentrated in the theatre of war, the railways alone were in this crisis evidently inadequate to meet Russian requirements in the matter of transport. Forces, therefore, sufficient to make certain of success could only be transported to, and maintained in, the Far East if Russia also possessed the power of moving them across the seas. If they won, and so long as they retained the command of the sea, the Japanese when once established in Korea could, even if defeated in battles ashore, have securely

withdrawn to some fortified area on the coast, such as was formed by Wellington at Torres Vedras, and there awaited a favourable opportunity again to take the offensive. And even if the Russians did succeed in driving the Japanese from the mainland, their conquest would have been uneasy until they had gained the power of utilising the ports that had been gained in battles on the land.

To obtain the command of the sea, then, was apparently vital for the Russians.

Japan is an island empire, and, although at that time to some extent self-contained, was not independent of seaborne commerce. The loss of the power to control the maritime communications would, moreover, have put an end to her dreams of expansion, and would have exposed the islands to the danger of invasion. Until the Japanese had secured the command of the sea their armies also could not easily have reached the continent of Asia. Had the Japanese, however, after naval actions that were indecisive ventured to undertake the invasion of Manchuria, and had they even been so far successful on land as to have driven the Russians out of the country before the question of supremacy at sea was finally settled, the eventual ruin of their land forces would have been all too certain if the link binding them to their island home were severed; for no large army could have been maintained in Manchuria by the Japanese with the command of the sea irrevocably lost.

Compression often gives to a statement the appearance of dogmatism, but what has been said above is intended merely to suggest that naval supremacy—that is, the power to control the maritime communications—was for both sides a primary need, and that each, therefore, should have strained every nerve for the attainment of this essential purpose, assigning to other necessary operations strictly subordinate positions.

It is evident, however, that for the achievement of their political objects, namely the prevention of a Russian advance into Korea and the substitution of Japanese for Russian influence in Manchuria, the Japanese must do more than destroy the enemy's Eastern squadron before reinforcements could reach it from Europe. They must also occupy Korea and beat the Russian garrison of Manchuria, and each of these objects must be effected quickly.

The more difficult part, in the strategical sense, of this problem would at once be solved if a naval action could be fought out at the beginning of the war. For if the Japanese were then definitely victorious, or if they were completely defeated, the military question would have been simplified. In the first case the energies of the nation could be bent towards the defeat of the Russian armies, as the fleet could deal with the European portion of the Russian navy if it sailed to the Far East, and the fortresses would inevitably fall when the armies had been beaten. In the second case the Japanese must, at all costs, try to maintain the integrity of Japan until Russia had become wearied with fruitless efforts to invade it.

But fleets do not always hurry to battle, and naval actions are not

invariably decisive; the Japanese, therefore, must be prepared to face the unpalatable contingency that the Eastern squadron would remain in Port Arthur and refuse to fight pending the arrival of a reinforcing squadron which might in from three to six months reach the Pacific from Europe. The navy of Japan was not sufficiently powerful, both to blockade the Russian Eastern squadron, and to hold off a fleet from the Baltic, should this reach the Far East. Consequently, if the naval actions were indecisive, or if the Russians elected not to hazard their Eastern squadron in battle, the Japanese would be obliged either to shut up permanently, by means of operations from the sea, the narrow fairway of the harbour of Port Arthur, and in this manner lock the enemy's ships inside it—a task of great difficulty; or they must attack Port Arthur and oblige the enemy's ships to choose between capture or destruction when in the harbour, and leaving the place; or Port Arthur must be won and the squadron seized or destroyed. And Vladivostock also, perhaps, must be attacked so as to ensure that no fortified base or harbour in the Far East would be available for use by the Russians.

The capture of a fortress can be attained either by sheer force or by starvation, the method that is employed being contingent on the necessity for bringing about the early fall of the place Time, therefore, as is usual in war, might become a decisive factor; and when time governs, the manner in which the solution of a military problem can best be effected will not come to the mind through inspiration, for the attainment of difficult ends depends largely on the clearness and adequacy of our pre-conception of the means that must be employed to effect them. Without this, the intuitions even of men of genius who are devoid of technical knowledge are likely to be erroneous rather than correct.

It may probably be accepted as a fact that the Japanese could not, early in 1904, have deployed their active army in Manchuria and Korea in a shorter period than about six months, and that about half of it could have taken the field in from three to four months. It may also perhaps be supposed that the Russian squadron in Europe could not have made the voyage to the Far East in a period of less than from three to four months after the Baltic was free of ice; and that, by using reservists who were living in Siberia, and transporting troops over the railway from Siberia and Europe, the Russian army could be augmented at the rate of from 15,000 to 20,000 armed men a month, and that this rate could be maintained so long as political exigencies allowed, and might perhaps be increased.

It might have been computed, therefore, by the Japanese that in six months a naval reinforcement might have reached the Far East; and that the Russian army in this area might have been raised from 75,000 to between 165,000 and 200,000 fighting men, or even to a larger figure, and these numbers might subsequently be increased. Whereas in six months the Japanese could not put into the field more than about 200,000 fighting men, even if Japan were stripped of first line troops, and could not add largely to this total. The quality of the Japanese troops would be better

than that of the Russians, and the Russians probably must devote at least 30,000 fighting men to the security of Vladivostock and of their line of communication. On the other hand, the garrison of Port Arthur would be behind fortifications, and to win them demands superiority of numbers as a rule.

Taking the middle figure of 180,000 as being likely to represent the fighting strength of the Russians at the end of six months from the outbreak of hostilities, and deducting 30,000 fighting men as being required to safeguard Vladivostock and the line of communication, 150,000 would remain for allotment between the field army and Port Arthur. As has been stated, the land frontage of this fortress extended for a distance of about 18 miles, so that the fighting force of the garrison could not be less than about 30,000, leaving 120,000 for the field army.

The problems of war, like those of every one of the activities of life, are solved through the use of the quality which is known as judgment —that is, through the accurate application of thoughts to things. As regards war this at first sight may appear to be an easy task, since the principles that must be present in the minds of those who are responsible for the strategical direction of armed forces are both simple, and so few in number that they have been summarised in no more than two pages of the second volume of the "Field Service Regulations." Principles, however, are, it must be remembered, merely aids to, not substitutes for, thinking.

"Concentration of superior force, moral and material, at the decisive time and place and its ruthless employment in the battle," is stated, under the heading "principles of war," in our official text-book to be "essential for the achievement of success." After the necessary calculations had been made, the first military question, therefore, in regard to which the leaders of the Japanese must employ strategical judgment was the difficult one whether every available man was to be sent to the mainland, or whether a detachment must be withdrawn from the active army for the purpose of securing the safety of Japan. They decided to retain in the country two divisions of the first line, because, as some say, to feed them in Manchuria would not have been practicable; but more probably, it may be suspected, for the same reasons as those that induced the British to keep divisions in England during the late war—namely, for fear of political consequences that would follow on a successful military raid. The Japanese, then, might at first be able to bring about 180,000 fighting men into the field.

The next question was how the possible surplus, as estimated above, of 30,000 fighting men at the end of six months could best be used, subject, of course, to the results of the first naval actions: whether to concentrate force against Port Arthur and remain on the defensive in the field? Or whether to blockade Port Arthur, trusting that it would fall through starvation, and attack the enemy's armies? Or, again, whether to attack both fortress and armies?—the operations of the field forces in the last case being used to cover the troops that were carrying

out the siege. The political necessity of occupying Korea being always borne in mind, and also the fact that strategy must often defer to the imperative needs of policy.

Owing to the influence of the factor of time, the second alternative may surely at once be dismissed, since the armies of the Russians then could, and probably would, have avoided battle until the squadron from the Baltic had reached the Far East. For, unless the garrison of Port Arthur were likely in the meanwhile to surrender owing to lack of food, there would be no powerful incentive for the Russians at first to stand and fight; and it would evidently be to their advantage to try and induce the Japanese to expend strength in an advance into the mainland of Asia, rather than allow them to use it in actions near to the sea-coast and to Japan. And should the Japanese be induced to follow such a policy, their armies would probably be obliged to make head against largely superior forces of the enemy, just when the navy would also be facing overwhelming numbers on the seas. If the enemy's armies were quickly to be brought to battle, Port Arthur, therefore, must also be attacked in order to prevent them from avoiding a decisive action.

The remainder of the problem may be fined down to the question whether the Japanese should or should not at first leave the initiative to the Russian field armies? And it is perhaps most easily grasped if the forces that might be employed by the Japanese in Manchuria are stated in terms of divisions; but it must not be forgotten that time was a vital consideration, and that delay in effecting a decision would be favourable to the Russians. During the first phase of the conflict the Japanese could probably put eleven divisions and five *kobi* brigades into the field. Should five divisions and one or more *kobi* brigades, some 70,000 fighting men, be sent against Port Arthur, and six divisions and three or four *kobi* brigades be left to cover the siege and to occupy Korea? That is to say, the field force of about 110,000 fighting men would not only be less numerous than that of the Russians, which might amount to 125,000, but must be split up into two groups that would be widely separated from one another. Or should eight divisions and two or three *kobi* brigades, 135,000 fighting men, take the field, leaving three divisions and two or three *kobi* brigades, 45,000 fighting men, for the attack on the fortress?—which, it may be pointed out, had been captured easily by the Japanese in 1904.

Every alternative necessarily possesses disadvantages, for we live in a wor'd in which advantage and drawback are closely intermingled. In the first case, therefore, the field armies of the Japanese would be under the disadvantage of being disposed in two comparatively weak and divided groups; and unless success were quickly gained at Port Arthur, these groups would be in some, although having regard to the nature of the country perhaps not very serious, danger of being defeated in detail. Further, when the offensive on land was begun, after the capture of Port Arthur, it would be commenced in unfavourable conditions; for two separate forces (connection between which might, however, have

been established by the landing of troops in the intervening space) must advance against an enemy's army which might, if the siege had been unexpectedly prolonged, be larger in numbers than would have been the case had it at once been attacked. Under the other alternative, neither the besieging force nor the field army might be sufficiently powerful to effect its purpose in the time, especially in view of the fact that movement on foot would be curtailed, if not suspended, during the rainy season, that could reasonably be assumed to be available before the arrival of reinforcements for both army and navy would rob the Japanese of their initial advantage.

The majority of those who have published comments in regard to the strategy of the war between Russia and Japan, including the naval and military writers of our combined official account of the operations, are of opinion that the problem could best have been solved by the adoption of the policy which was actually followed by the Japanese; who perhaps overestimated the rate at which their armies could move when in Manchuria, and underestimated the resistance that might be offered by the garrison of Port Arthur. And it is held that, in attacking simultaneously, the enemy's armies and the great fortress on which the eastern squadron was principally based, lay that true " economy of force " which is stated in the " Field Service Regulations " to be one of the principles of war. If, as has been suggested in this article, the primary need of the Japanese was to establish naval predominance in the Pacific, the first alternative would, it seems to me, have been preferable; and that, under the conditions which then obtained in the Far East, and if a decisive action were not in the first instance fought out on the sea, Port Arthur[1] was the " decisive place " to which reference is made in section 2 of the " Field Service Regulations, Vol. II."

If it is agreed, however, that the Japanese should at once have attacked the armies of the Russians, the next question is how the forces of Japan could best have been disposed so as to effect their purpose? Even so great a master of war as Napoleon did not disdain, before undertaking a campaign, to study the operations that had previously been

[1] It may be asked whether the despatch of larger numbers against Port Arthur would in any way have expedited its fall? seeing that experience which was gained in the recent war has indicated that gun, more than man, power is now requisite for the capture of fortifications. It appears, however, that Port Arthur was won by hard fighting rather than by means of battering; for it is stated in the third volume of our Combined Naval and Military Account of the Russo-Japanese War that the effect which was produced by certain 11-inch howitzers that were sent to the army which was besieging Port Arthur in September, 1904, from the coast fortifications of Japan, was disappointing. Their shells had been designed for use against armoured ships and possessed only a small bursting charge. The number of troops that was at first employed against Port Arthur was only sufficient to enable an attack to be made on one front at a time, and such assaults could be met by the bulk of the garrison. Had a larger force been available the frontages of attack could have been increased, and in consequence the probability of achieving success, since fewer Russians could have opposed the assailants in any of the areas that were being attacked.

carried out in the particular theatre of war. It may, therefore, be advantageous to recall in this connection that, in 1894–1895, before railways had been built in Manchuria, the Japanese adopted the following procedure in their struggle against the Chinese.

War was declared on the 1st August, 1894, but hostilities had actually commenced on the 12th June, when 5,000 Japanese troops had landed in Korea at Chemulpo, and had then marched to Seoul. On the 25th July, a naval action took place off the coast of Korea between three Japanese cruisers and two Chinese cruisers that were acting as escort to a troop transport. The latter was sunk and the Chinese cruisers were driven away. The Japanese then sent a force of about 20,000 men to Korea, and these pushed the Chinese troops that were holding the northern portion of the country across the Ya-lu, reaching Wi-ju on the 8th October. Meanwhile the Japanese had, on the 1st September, gained a decisive victory over the Chinese fleet in a battle which took place off the mouth of the Ya-lu. The 1st Japanese army of two divisions forced the passage over the Ya-lu in the face of about 20,000 Chinese troops on the 25th October. On the 24th of this month, the 2nd Japanese army of 18,000 fighting men landed on the Liao-tung peninsula and at once laid siege to Port Arthur, which fell on the 21st November. Leaving a flank guard at Feng-huang-cheng to watch Chinese forces that were to the north and west of it, the 1st army had meanwhile advanced towards Hai-cheng (to the east of Ying-kou), and this place was reached on the 13th December after a march in which great hardship was suffered by the troops. The 1st and 2nd armies did not join hands until the end of February, 1895, the latter having first to fight hard against a force of Chinese which had taken post at Kai-ping (to the south-east of Ying-kou); while the former had five times been attacked by the enemy at Hai-cheng. At this period there were 20,000 Chinese troops at Liao-yang and Mukden, and about 45,000 near Ying-kou. On the 13th February a force of Japanese captured Wei-hai-wei, where some important units of the Chinese battle fleet had taken refuge, and soon afterwards an armistice was concluded.

In this campaign, then, the Japanese were obliged, owing to the political necessity of occupying Korea, to incur the military disadvantages that follow on the dispersion of force; and they relied in the first instance on the protection that could be given indirectly to the troops that were besieging Port Arthur through the presence of an army on the banks of the Ya-lu. But great difficulty was experienced in advancing from this river to Hai-cheng owing both to the rigour of the climate and to the undeveloped nature of the country. Dispersion was again inevitable in 1904 on account of political requirements, for a bird in the hand (the possession of Korea) is worth two in the bush; and in any case, a spreading out of troops would have been necessary owing to the nature of the communications and the somewhat barren character of the Manchurian uplands. But in view of the existence of railway communication down the Liao-tung peninsula, and of the probability that greater

efficiency could be attributed to the armies of Russia than to those of the Chinese, indirect protection could not now effectively be given to troops that were attacking Port Arthur, and a large proportion of the field force must be detailed to cover them directly.

The plan that was actually adopted by the Japanese was calculated to meet this requirement; and after the occupation of Korea had been effected, was that of a converging advance by three armies (the group on the right comprising about three, the left about four, and the central force about one and a half divisions) from the Ya-lu, Dalny and Ta-ku-shan in the direction of Liao-yang where it was thought that the first great battle would be fought. Meanwhile, a third army of about three divisions, besides *kobi*, was to lay siege to Port Arthur. Having adopted a plan of converging movement from separate areas, rather, for instance, than a more hazardous deployment on the Ya-lu and at Ying-kou, the object of the Japanese, while pressing forward the siege of Port Arthur, would necessarily have been to have exercised such simultaneous and unrelenting pressure against the Russians from each direction as to prevent the concentration of enemy forces against any one of the separated armies. At the same time, every effort would be made to bring them, by a rapid and well-regulated advance on a common objective (Liao-yang) into localities where they would be in tactical contact with one another.

The objects of the Russians were naturally, to a great extent, the converse of those of the Japanese, for if the latter desired to gain a rapid and early success, Russia required time in which to collect her scattered forces; but in the meanwhile she must at all costs maintain possession of her naval bases, without which the command of the sea could not have been won. Whether the Eastern squadron should or should not have fought a decisive action against the fleet of Japan early in the war is governed by the date on which naval reinforcements might be expected to reach the Far East from Europe. If their arrival was likely to be long delayed owing to political or other reasons, it would become a question as to whether all should not have been risked in a naval battle, rather than allow every chance of success gradually to melt away by weakly waiting in port until *morale* and efficiency had so far waned that victory could no longer be expected. In actual fact, the Russians made little or no attempt to dispute with the Japanese the command of the sea, and aimed solely at effecting the defeat of the armies of their enemies. But, before the outbreak of hostilities, the boast seems rashly to have been uttered that the possibility of a reverse on the water was a contingency that need not even be considered.

The Russian military general staff had, nevertheless, come to the conclusion, after a careful survey of the situation, that should the Japanese obtain the control over the maritime communications in the Far East, they would, during the first period of the war, be in a position to employ on the mainland numbers considerably superior to those that would be at the disposal of the Russians; for the strength of the

permanent and territorial armies of the Japanese, together with the drafts required for their maintenance, was computed as amounting to 400,000 men. It was supposed that the Japanese would put into the field ten or eleven divisions, which might be employed either to occupy and secure Korea, where attack by the Russians would be awaited, or for offensive operations both in Manchuria against Port Arthur and in the Ussuri province against Vladivostock. After the outbreak of hostilities and shortly before his appointment to command the Russian army in Manchuria, General Kuropatkin also drew up, on the 15th February, a brief memorandum in which it was stated that the plan of campaign for the Russians must be simple. As regards the course of the operations, he contemplated, in the first instance, a struggle for the command of the sea between the rival fleets, and this he thought would be followed by attempts on the part of the Japanese to land in Manchuria, and by measures to prevent them from doing so. Defensive, delaying and guerilla actions by the Russians might then be fought, until forces sufficient to justify them in assuming the offensive had been concentrated in the theatre of war. When this concentration had been effected, the armies would deliver powerful attacks with the object of expelling the Japanese both from Manchuria and Korea; and the last and final phase of the struggle would be marked by the invasion of Japan. It was, in the opinion of General Kuropatkin, essential not to expose the Russian armies to defeat in detail; and he observed, therefore, that no position or point should be considered to be of sufficient importance for defence to justify the defeat of any advanced troops that might occupy it. Finally he laid down that the offensive must not be assumed until the Russian army was both adequate in numbers and had been properly equipped for this purpose. And it seems also to have been decided that all the troops which were not required for the defence of Port Arthur, Vladivostock, and the line of communication, and to maintain contact with the enemy, should be assembled in the vicinity of Liao-yang.

The essence of the clear-cut conception that had been formed by General Kuropatkin of the course that should be followed by the Russians, was that no risk should be run by the forces that would at first maintain touch with those of the enemy; and this, no doubt, will be stigmatised as a sterile and dreary counsel of perfection by those who possess the invaluable but dangerous gift of a strong imagination, and who would probably vote for a definitely opportunist policy. Much may be said for each of these plans, but, as Lord Kitchener once remarked, "we have to make war as we must and not as we should like to." The event, therefore, will show how hard it was for the Russians to adhere to the "maintenance of the objective," and that one of the difficulties of waging war consists in the fact that many, many jarring wants will inevitably arise in times of deadly conflict either to thwart and disturb even the most perfect and simple of plans, or to add to the perplexities of the opportunist.

III.

It has been pointed out that the Japanese were in many respects well prepared to undergo the hard ordeal of war in the autumn of 1903. They continued, therefore, strongly to urge on the Government of the Czar the pressing necessity for the evacuation of Manchuria, and, on the 6th February, 1904, when all the resources of diplomacy had failed, abruptly severed relations between the two Powers.

On the same day the bulk of the Japanese navy sailed away to attack the Russian squadron which was believed to be ready for immediate action, and to be lying outside the harbour of Port Arthur; detachments having already been made, both to guard the straits of Tsushima against the cruisers from Vladivostock which could have come out with the help of ice-breakers, and to act as convoy to a force of 2,500 men that was destined to occupy Seoul, the capital of Korea. These troops were duly landed on the 9th at Chemulpo, and on the next day two small Russian cruisers which had been wintering in this harbour were sunk as they came out of it.

Meanwhile on the night of the 8/9th, Admiral Togo had surprised the Russian squadron which was at anchor outside the entrance of Port Arthur, and the Japanese then torpedoed and damaged three of the largest vessels. In the interval, mobilisation had commenced in Japan, and on the 10th February war was formally declared. Between the 9th and 12th February, most of the nations, including the Chinese, published declarations of neutrality; and, somewhat later, an agreement was made between Japan and Korea in regard to the integrity of the latter.

It had at first been the intention of the Japanese to secure the possession of southern Korea, at any rate, by landing a division at Fu-san, and moving it, under cover of the troops at Seoul, by march route to the capital. In spite of the partial character of the success that had been gained by the fleet, they boldly determined now to use Chemulpo, the most northerly of the harbours that was free of ice, as the port for the disembarkation of the army which was to occupy the country; and for some weeks the movement of troops to Korea by sea was continued under cover of intermittent attacks on the part of the fleet against the forts of Port Arthur, as well as of abortive attempts to obstruct the mouth of the harbour within which the Russian squadron had taken refuge.

In spite of the fact that the Japanese had experienced great trouble in 1894 in overcoming the physical difficulties of the routes leading from Seoul to the Ya-lu, these difficulties, and the possibility of meeting with bad weather, had not sufficiently been discounted. Although their troops were opposed only by about 2,000 Russian cavalry, it was in consequence not until the end of April that the three divisions (the Guard, 2nd and 12th) of the First Army had concentrated near Wi-ju under General Kuroki. Meanwhile, three other divisions, which

were to form part of the Second and Third Armies, had been quietly embarked, under General Oku, in 80 transports, which had sailed as they were ready without escort to Chinampho.

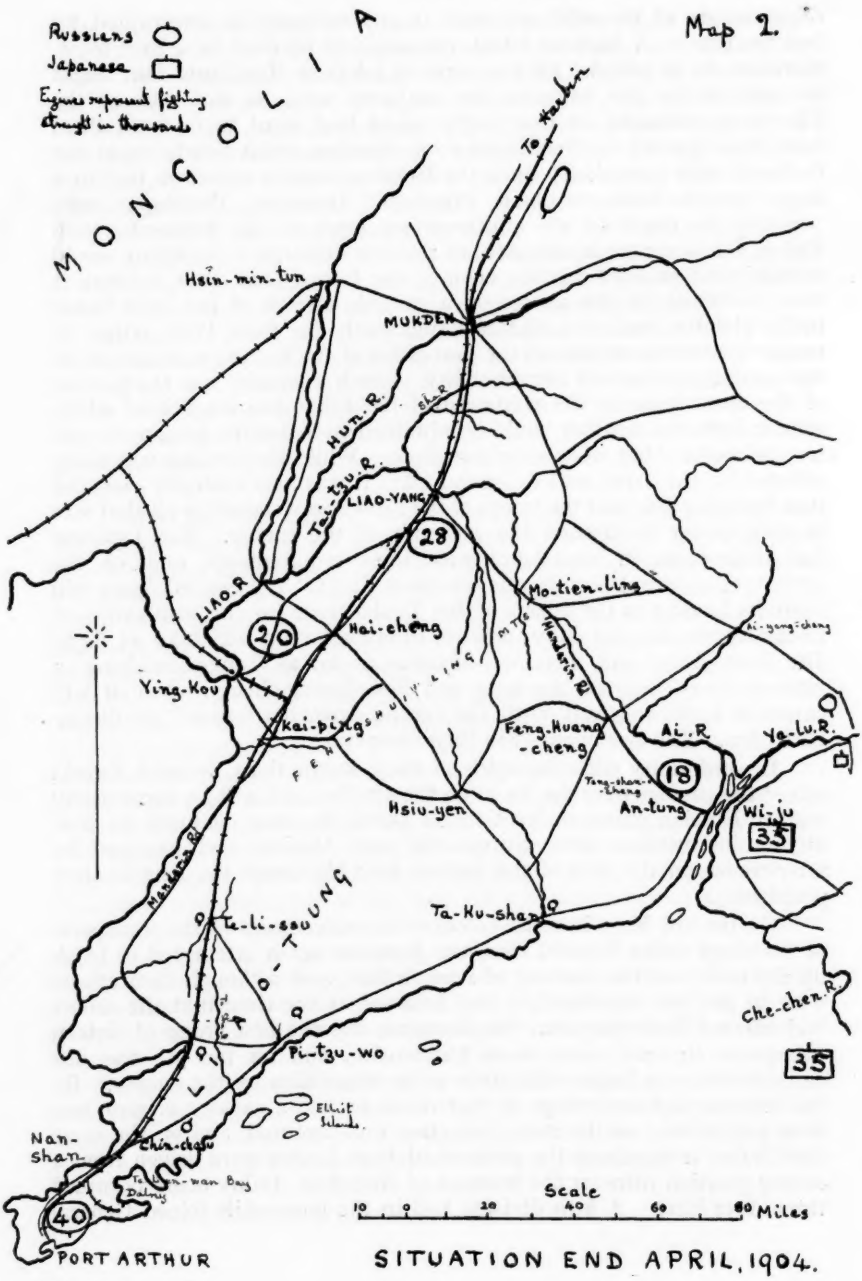
On the Russian side, orders had been issued for the mobilisation of the troops in the Siberian and three of the European corps districts; the command of the Eastern squadron was given to Admiral Makarov, an able and energetic officer; the Viceroy had transferred his headquarters from Port Arthur to Mukden; and General Kuropatkin had been appointed to command the army in Manchuria, while General Linevitch was placed in control of the Ussuri district, both of these officers being, however, under the orders of the Viceroy.

A serious disaster now befell the Russian squadron. The injuries that had been received by the ships on the night of the 8/9th February had so far been repaired that, under the inspiring leadership of Makarov, the squadron had, in April, frequently cruised outside the harbour of Port Arthur; but on the 12th the flagship was mined and sunk with this admiral on board, and another battleship was also injured.

At the end of April the general dispositions of the land forces of the Russians were as shown on Map 2; and it is said that some of the Russians, whose opinions naturally were affected by the failure of their fleet, now believed that it was the intention of the Japanese to destroy the Eastern squadron by capturing Port Arthur if the vessels persisted in remaining under the protection of its guns. At the same time, the enemy's field armies would advance to Harbin so as to isolate Vladivostock from the rest of the Russian empire. General Kuropatkin, however, had also written to General Stössel, who was commanding the forces in Port Arthur, that four Japanese divisions had invaded Korea and had reached the Ya-lu. Landings in force, therefore, might, he said, shortly be expected in northern Korea, and in the Liao-tung peninsula for the purpose of carrying out operations either against Port Arthur or against the Russian forces that were assembling round Liao-yang. Should the fortress be attacked the army would advance to its relief as soon as a force sufficiently numerous to effect this purpose had been assembled. If the enemy marched against the field army, Stössel was to harass their rear, and endeavour to draw off portions of their forces southwards.

The presence of the First Army under General Kuroki on the banks of the Ya-lu marked the conclusion of the first stage in the war plan of the Japanese. In the second stage, it will be remembered, measures for the isolation and siege of Port Arthur were to be combined with an advance by the field armies against those of the enemy. The function of the force that was lying off Chinampho was evidently, therefore, first to interpose between the fortress and the armies of the Russians, and then to co-operate with the first army.

It is obvious that an army which is carrying out invasion from the sea cannot undertake the campaign from the unsteady footing of an open beach, where communication with the ships which carry all the


Russians
Japanese
Figures represent fighting strength in thousands
Map 2.
MONGOLIA
To Harbin
Hsin-min-tun
MUKDEN
HUN. R.
Tai-tzu R.
LIAO-YANG
28
LIAO R.
20
Hai-cheng
Mo-tien-ling
Ai-gang-cheng
Ying-Kou
Kai-ping
SHUI-LING
Feng-Huang-cheng
Ai. R
Ya-lu. R.
18
Hsiu-yen
An-tung
Wi-ju
35
Te-li-ssu
Ta-Ku-shan
che-chen. R.
Pi-tzu-wo
Elliot Islands
Nan-shan
Chia-chau
Talien-wan Bay
Dalny
40
PORT ARTHUR
Scale
10 0 20 40 60 80 Miles
SITUATION END APRIL, 1904.
3 A 2

requirements of its existence may at any moment be interrupted by bad weather A harbour which can securely be used as a base must, therefore, be acquired. Of the ports or inlets in Manchuria that might be suitable for this purpose, the majority were on the west of the Liao-tung peninsula, so that every vessel that went to or from them must have passed by Port Arthur—a situation which clearly could not be faced with equanimity until the Russian Eastern squadron had to a large extent been rendered impotent. Invasion, therefore, must probably be made on the south-eastern coast of the peninsula, with Dalny, the best port in this area, as the first objective. As Dalny would certainly be guarded by the enemy, the troops that were to seize it must naturally be put ashore on a suitable stretch of the open beach in its vicinity, and at a distance sufficiently far from Port Arthur to render formidable attacks on the part either of the Eastern squadron or of the garrison matters of improbability. Such a locality was the portion of the coast lying to the westward of the Elliot Islands, behind which shelter from the weather could be obtained both for the transports and for the vessels that were escorting them. While the landing was being effected by the army under General Oku, it was also evidently essential that both the fleet and the troops of the First Army should do all that was in their power to distract the attention of the enemy. The Japanese laid their plans in accordance with these requirements, and, on the 17th April, General Kuroki was informed that : " The Second Army will begin its landing at the mouth of the Ta-sha river (to the south-west of Pi-tzu-wo) on the 1st May, and its disembarkation will take 45 days. The First Army will, therefore, advance as far as Tang-shan-cheng (a place midway between An-tung and Feng-huang-cheng), where it will entrench itself and wait until the Second Army has finished its disembarkation. The two armies will then co-operate."

In conformity with the spirit of these instructions, General Kuroki forced the passage over the Ya-lu on the 1st May, defeating a numerically weaker Russian group under General Zasulitch, who, confused by conflicting instructions from Kuropatkin and Alexiev, and harassed by interference on the part of the former, held his troops too long in their positions.

On the 3rd May, in order to cover the movements of the transports of the army under General Oku, the Japanese again attempted to block up the mouth of the harbour of Port Arthur, and, although their efforts were in fact not successful, it was believed at the time that the sailors had effected their purpose. On the same day the first group of sixteen transports steamed away from Chinampho, and on the 5th the disembarkation was begun with little or no opposition by the enemy. By the 21st the fighting troops of four divisions and a cavalry brigade had been put ashore, on the 26th Chin-chou was captured, and on the same day 16,000 troops from the garrison of Port Arthur were driven from a strong position athwart the isthmus of Nan-shan, Dalny being occupied three days later A fifth division had in the meanwhile joined General

Oku, and two divisions, with some brigades of *kobi* that were soon to reach the front, were now constituted the Third Army, and were placed under the command of General Nogi for the purpose of undertaking the siege of Port Arthur. But the third, fourth and fifth divisions, the cavalry brigade and an artillery brigade remained under General Oku who became the commander of the Second Army. On the 19th May the tenth division, which was to form the nucleus of the Fourth Army, had begun to disembark at Ta-ku-shan under General Kawamura, and these troops also were not seriously opposed. The First Army had, in the interval, advanced on the 10th May to Feng-huang-cheng and Ai-yang-cheng, Tang-shan-cheng, a village in a narrow and desolate defile, having been found to be quite unsuitable as a halting place for a large force.

Although all had gone well on shore a grave calamity had befallen the Japanese fleet, for on 14th May two battleships and one cruiser had been mined and lost not far from Port Arthur. Fortunately advantage of this incident was not taken by the Russians to deliver a naval attack, and it seems that, in consequence, the Japanese not unnaturally came to the conclusion that the Eastern squadron was no longer in a position to do so.

During the first half of May, as will have been evident, General Kuropatkin had continued steadily to follow the policy that had been outlined in the memorandum of the 15th February, although the viceroy was already seriously concerned for the safety of Port Arthur. Even before the Japanese had begun to land on the coast of the Liao-tung peninsula, Alexiev had indeed issued general instructions to Kuropatkin that when the fortress was attacked the army must advance to its support. And on the 19th May definite orders were sent to the commander-in-chief that active measures must be taken with the object of relieving pressure against Port Arthur; and that in consequence an attack must either be made on the force which was under Kuroki, or, whilst steps were taken to hold fast the troops of the First Army, the Russians must march against the group that was commanded by Oku. Two days later a further suggestion was made that, whilst a screen of troops should be left on the Fen-shui ling[1] range, and a reserve at Hai-cheng, the remainder of the field force should advance against the Second Japanese Army. It seems that Kuropatkin demurred to these plans, as not being in accord with the principles on which he believed that the campaign could at this stage best be carried out. The matter was in consequence referred to the Czar, who quickly decided that to relieve Port Arthur was imperative, and gave instructions that an expedition must be sent southwards for this purpose.

The augmentation of the Russian army had meanwhile been steadily proceeding, and towards the end of May the field force had reached the respectable total of about 100,000 bayonets and sabres. At this period it was estimated that the strength of the First Japanese Army was three

[1] *Ling* is the Chinese word for *pass*.

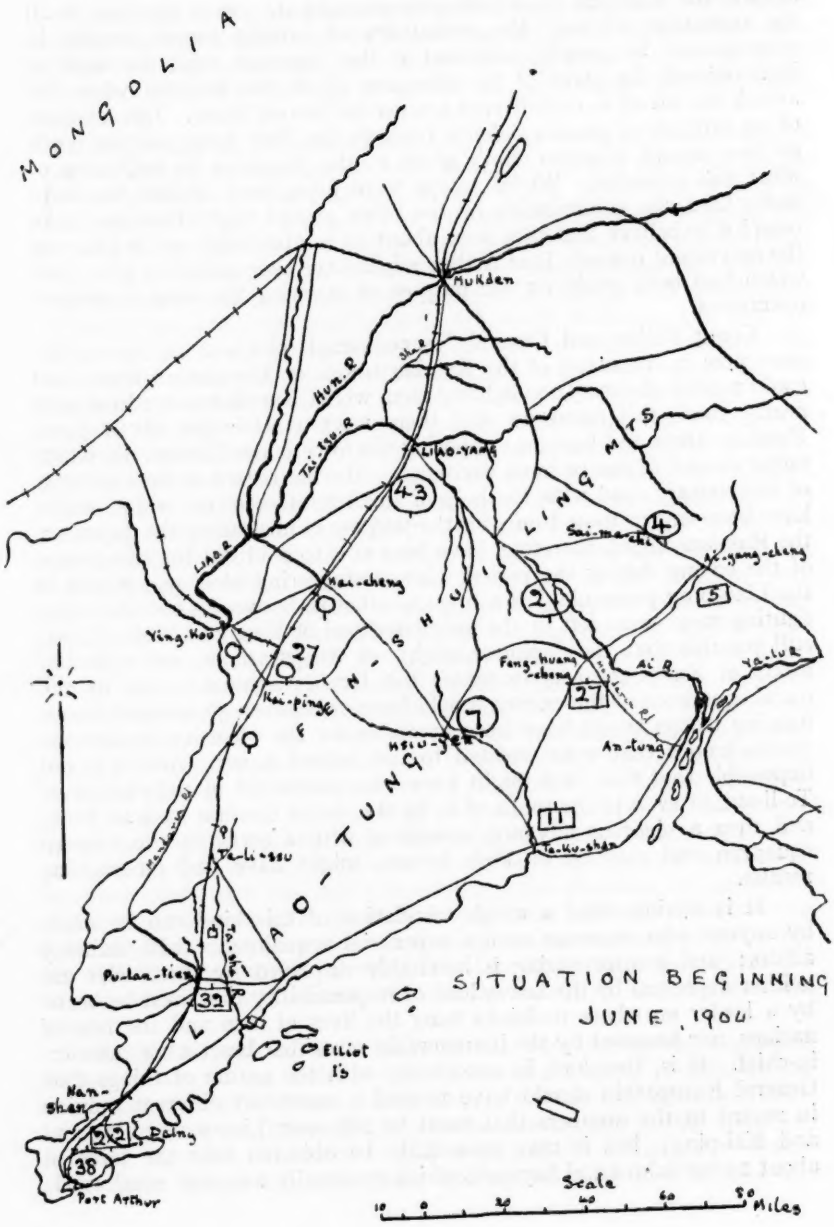
divisions and three *kobi* brigades; the Second Army was believed to comprise three divisions, and it was also thought that there was a group of considerable size in the neighbourhood of Ta-ku-shan; the grand total of these three forces amounting perhaps to between 80,000 and 100,000 fighting men. (Map 3.)

One of the most important of the questions that must generally be decided before an operation of war is commenced on a large scale is the position of the ' decisive place,"—that is, the direction in which the blow can be delivered with the greatest probability of attaining decisive results should the venture be crowned with success. This often is in itself a difficult question, but in Manchuria the matter was hardly in doubt, and Kuropatkin certainly made a correct selection when he resolved to attack the force under General Oku; for, although the defeat of the First Army might have delayed the operations of the Japanese, their plan of campaign would not thereby have been shattered. Moreover, to have reached the First Army at all would have been a slow and difficult business, having regard both to the rugged nature of the country which extends to the south-east of Liao-yang, and to the shortage of transport, and particularly of pack transport, from which the Russians were suffering. An effective advance northwards by the Second Army would in addition have obliged the Russians to abandon their plans and to conform to the movements of the enemy; for space could probably not have been covered and victory gained over the First Army, before a change unfavourable to the Russians had taken place in the situation in the Liao-tung peninsula. By beating the army under General Oku the Russians, on the other hand, would have paved the way for a yet greater success, which would have opened the road to Port Arthur and saved the Russian squadron. Further, the physical conditions which would have prevented the rapid concentration of force against the First Japanese Army, would equally have delayed any forward movements by them, and the Second Army, therefore, could, so far as time and space would affect the issue, probably have been defeated before the communications of the Russian troops that were in the Liao-tung peninsula could have been endangered by the operations of forces under Generals Kuroki and Kawamura.

Having determined to strike at the Second Army, the next point for consideration would have been as to the size of the force with which the operation was to have been undertaken. And while it is easy to perceive that, in accordance with the principle of "concentration," every available man should be employed in this undertaking, other necessary detachments being reduced to the lowest possible limits, it is also clearly very hard to determine exactly where this margin of safety should be fixed.

It is an axiom that to exercise a continuous and unwavering pressure on the forces of the enemy is the very soul of convergent strategy; and it was to be expected, therefore, that the forward movement of each of the armies of the Japanese would in any case be prosecuted with vigour,

Map 3


MONGOLIA
Mukden
Hun R.
Tai-tzu R.
Liao R.
Liao-yang
LING MTS
Sai-ma-chi
Ai-yang-cheng
Kai-cheng
Ying-kou
Hsi-ping
Feng-huang-cheng
Ai R.
Ya-lu R.
An-tung
Hsiu-yen
Ta-ku-shan
Pu-lan-tien
Elliot I's
Nan-shan
Dalny
Port Arthur
SITUATION BEGINNING JUNE, 1904
Scale
Miles

but that if one of them were attacked, the others would advance forthwith against the Russians so as indirectly to assist it. As is the case in all the operations of war, the probability of gaining success would, in consequence, be greatly increased if the Japanese could be kept in ignorance of the plans of the Russians up to the moment when the attack was about to be delivered against the Second Army. The adoption of an attitude of passive defence towards the First Army and the tenth division would, however, have given to the Japanese an indication of what was intended. Whilst troops were being sent against the force under Oku, the commanders of the other groups might therefore have been led to believe that they were about to be attacked; and in this case the movement towards Port Arthur might have been mistaken for a feint which had been made for the purpose of covering the more important operations.

Count Keller, and General Rennenkampf who was at Sai-ma-chi, were now in command of the Russian troops on the eastern front, and could muster about 25,000 fighting men, whilst Kuroki was credited with nearly twice this number; and there were at Hsiu-yen about 7,000 Russian sabres and bayonets opposing the force under Kawamura, which might consist of one or more divisions. Having regard to the character of the country, and with the help of small reinforcements which might have been sent to these fronts for the purpose of misleading the Japanese, the Russians might, therefore, have been able to hold fast the two groups of the enemy during the period when a staggering blow was struck in the Liao-tung peninsula. If a brigade—that is, between 5,000 and 6,000 fighting men—were left in the neighbourhood of Ying-kou, where it was still possible that the Japanese might set troops ashore, and a similar group at Kai-ping so as to secure this locality against a raid by the naval squadrons of the enemy, a field force of between 50,000 and 60,000 fighting troops would have been available for the offensive against the 36,000 troops that were credited to the Second Army. And it is not impossible that this force might have been assembled in the vicinity of Te-li-ssu, or even to the south of it, by the end of the first week in June; and then a vigorous advance, combined with a sortie by the Eastern squadron and garrison of Port Arthur, might have had far-reaching results.

It is obvious that a rough calculation of this kind can be made by anyone who possesses even a superficial acquaintance with military affairs; and greater daring is inevitably displayed by those who are neither depressed by the heavy load of responsibility that must be borne by a leader on whose decisions hang the lives of men and the fate of nations, nor harassed by the innumerable cares that beset a commander-in-chief. It is, therefore, in accordance with the nature of things that General Kuropatkin should have formed a somewhat different opinion in regard to the numbers that must be left near Liao-yang, Ying-kou and Kai-ping; but it may reasonably be objected that the force of about 29,000 sabres and bayonets which eventually was sent southwards

to attack the Second Army, was at once too small to compel a success, and too large for the purpose of merely effecting a diversion. The reason being that the troops were sufficiently numerous to tempt their commander to fight, but the detachment did not possess the superiority that would make victory a matter of something approaching to probability.

While General Kuropatkin was engaged in the always very difficult task of making a dangerous decision, news had reached the headquarters of the armies of the Japanese (which were still in Japan) that it was the intention of the enemy to make an attack against the force which had isolated the garrison of Port Arthur. The Second Army was not yet ready for a sustained offensive, as the trains of the three divisions had not been wholly landed, nor was the concentration of the supply and ammunition columns complete; the sixth, the fourth of its divisions, had also not yet even begun to arrive from Japan. When this information was apparently confirmed by a reconnaissance, which was made at the beginning of June, towards Te-li-ssu by the cavalry brigade, it was resolved, therefore, that the other groups must endeavour to hold the attention of the Russians until the Second Army was prepared to move, and the offensive could be assumed by the whole of the forces. Orders, consequently, were issued to the First Army and to the tenth division that they were to be in readiness to go forward at the end of the first week in June. But " strategy " can never safely move without obtaining from " transportation " a reply in the affirmative to the question " can I do it? " Although supplies were being accumulated at Feng-huang-cheng, the commander of the First Army was, therefore, obliged to plead that an advance could not be undertaken until the middle of June. But it was agreed that a detachment could be sent towards Hsiu-yen so as to assist the tenth division to do so Kawamura was informed, as a result, that: " the Second Army will try and divert the enemy towards Pu-lan-tien, and will deliver a counter-attack with all its strength The fight will probably take place on the 5th June." He began, therefore, to advance on the 6th June, as soon as it was possible for his division to do so, and on the 8th, Hsiu-yen was captured with the assistance of a force, under General Asada, of about a brigade from the First Army. At the same time, with the object of alarming the Russians for the safety of the communications of the troops that were believed to be moving down the Liao-tung peninsula, a naval demonstration was made on the 7th and 8th June in the neighbourhood of Kai-ping. But there was no such combination between the Eastern squadron and the Russian army.

The activity which was shown by the Japanese at the beginning of June produced the desired effect, and when a force of some 20,000 troops had reached Te-li-ssu and the area to the south of it, under Baron Stackelberg, Kuropatkin suspended further movements in this direction, and held back the remainder at and to the north of Kai-ping. Meanwhile Keller, about the 10th June, had advanced towards Sai-ma-chi,

but had then retraced his steps. On the 10th and 11th June Kuropatkin heard that the forward movements of the Japanese in the eastern portion of the theatre of war had ceased, and that the ships had sailed away from Kai-ping; and on the 13th he decided that the southern detachment under Stackelberg should continue its concentration, and should march towards Port Arthur on the 18th.

The supply and ammunition columns of the third, fourth and fifth Japanese divisions had, however, come to hand on the 12th June, and although the sixth division was about to begin to land, General Oku considered that, if the advance were delayed, the Russians would be given the opportunity of completing any operations that were in contemplation. The Second Army, therefore, began to march northwards on the 13th June, and the Russians were defeated in a battle which took place at Te-li-ssu on the 15th. But Oku was unable to take advantage of this success owing to difficulties in regard to transportation. (Map 4.)

Fortune seemed now about to desert the Japanese, for, on the 23rd June, just when orders had been given that their armies were to go forward before the arrival of the summer rains would hinder movement on land, the whole strategic situation was suddenly and radically altered. The Russian squadron, which for some time had been inactive, unexpectedly put to sea, but returned again to Port Arthur when Admiral Togo's fleet advanced to meet it.

This movement caused great alarm among the Japanese, who could only pit four battleships against the six that had been shown by the Russians, as it seemed that the communications of their armies were in jeopardy. It will, therefore, be necessary briefly to describe the situation in which they were placed.

The three field armies were still widely separated from each other, while the Third Army had not yet advanced to within 10 miles of Port Arthur. Although the Japanese had defeated the Russians at the Ya-lu, at Hsiu-yen and at Te-li-ssu, and might fairly claim to have established tactical superiority over the enemy when the numbers were equal or were in their favour, no one of the field armies could hope to resist the largest force which the Russians might bring against it. Strategically, their position was in consequence, unfavourable, and it could only be improved either by concentration or by retirement. The most obvious method of effecting concentration was to advance; but could the Japanese dare to do so while the line of communication to Japan might at any moment be severed? It would, however, evidently be most dangerous for the three groups to stand fast when divided from one another yet at no great distance from the enemy's zone of concentration. And although to fall back would bring temporary relief, since the centre and right could withdraw behind the Ya-lu[1] and the left

[1] The armies would then have been placed to some extent in the positions that were advocated on page 661; but two valuable months would have been lost during which the attack against Port Arthur might have been pressed on, and a large portion of the forces would be on the right flank instead of having been devoted to the siege.

Map 4.

SITUATION MID-JUNE, 1904

to the isthmus of Chin-chou, the moral effect of doing so might not only be disastrous, but the armies of the Japanese would have separated to a larger extent, and the initiative would have passed to the enemy at a time when their forces were becoming formidable, so that the future course of the war could not then be contemplated without dismay.

When the problem has objectively been stated in these terms, and now that, even if an attempt is made to regard it subjectively, the elements of surprise and anxiety are absent, it will probably be agreed that the best course for the Japanese would have been to have gone on. Their armies, when concentrated or more nearly concentrated, would have been in the best condition to have faced any eventuality that might occur; since a united force whose communications over the water had become precarious might hope, at any rate, to gain a victory should the enemy accept battle, but a force whose components were separated probably could not do so. After a success had been won, retirement through Korea might, if necessary, be effected; and by using the islands in the straits of Tsu-shima, even the power of passing ships across it might still have been retained. Our will, however, is said to be impulsive and our intellect precipitate and incapable of calm deliberation when the emotions are in command. The impulses that have been excited by surprise tend also to determine action as the feeling of surprise subsides. It is not a matter for wonder, therefore, that the leaders of the Japanese hesitated; and that, on the 24th June, notification was sent to the commanders of the First and Second Armies and the tenth division that, as the Russian fleet was still able to put to sea and render the transport of supplies over the water precarious, the combined advance on Liao-yang must be postponed until after the end of the rainy season, that is until September.

Owing to the difficulty which had been experienced in feeding the divisions of the First Army, orders had previously been issued by General Headquarters that, in anticipation of a sustained advance, a depôt of supplies was to be formed at Tang-yuen-pu, under cover of a detachment which would be sent forward to this place in front of the army. But, General Kuroki, considering that such procedure would be hazardous, had decided to advance with the whole of his force to the main range of the Fen-shui ling, and the troops were actually on the march when the order of the 24th June was received at his headquarters. In the circumstances, General Kuroki resolved to continue the advance, and to seize the passes over the main range at and near the Mo-tien ling, rather than turn back; and this was successfully accomplished, for the troops under Count Keller and General Rennenkampf withdrew as the Japanese closed with them. Soon afterwards, however, the communications of the First Army were so seriously disorganised by heavy rains, that it was only with the greatest difficulty that the divisions maintained their positions.

It had also been arranged that the tenth division and Asada detachment should attack the passes over the main range at and near

the south Fen-shui ling (pass) on the 26th June, when it was expected that the Second Army would have gained Kai-ping; and Kawamura, likewise, daringly decided that the path of safety lay in winning these important localities, which was effected on the 27th June. The Second Army meanwhile had not been able to advance beyond Hsiung-yao-cheng, owing to the difficulty of bringing supplies to the troops. A number of railway trucks had indeed fallen into the hands of the Japanese at Dalny, but no engines, and as the gauge of the line was greater than the metric gauge of the railways of Japan, the rolling stock of the latter could not be used on the railway line connecting Dalny with the north. The conversion of this line to metric gauge was not begun until the 13th July, and was not completed until September; but in the interval, the carrying power of the horse and mule-drawn transport was supplemented by that of trains of trucks, which were man-handled on the railway.

One effect of the battle of Te-li-ssu on the dispositions of the Russians was that all available troops were sent southwards by General Kuropatkin, six battalions being even withdrawn from the force under Count Keller. At the same time, the preparation of a position was commenced in the vicinity of Ta-shih-chiao. The bold advance to the south Fen-shui ling of the small force under Kawamura, which was believed by the Russians to comprise no fewer than four divisions, then caused the Russian commander-in-chief to fear that the enemy would capture Hai-cheng. Thirty thousand troops, hastily drawn from five different divisions, were, therefore, swept up to oppose them, with the result that there was much confusion, intermingling of units and breaking up of organisation. No further movements having been made by the Japanese, six battalions were soon afterwards sent to Keller, and one division also withdrawn to Hai-cheng.

As the Russian fleet had in the interval not again shown activity, it was decided by the Japanese, early in July, that their armies might again go forward; and Kawamura was then informed that the Second Army would shortly advance, and that the tenth division should march in a westerly direction, so as to co-operate with the troops under General Oku. Kawamura, however, only felt able to send two weak detachments towards Kai-ping for the purpose of establishing touch with the forces under Oku, which reached this place on the 9th July. On the 12th, the tenth *kobi* brigade, whose movements had been delayed by the rainy weather, arrived at Hsiu-yen, and on the 16th General Nodzu took command of the central force, which now became the Fourth Army.

It seems that these and other movements caused General Kuropatkin to determine to test the strength of the forces of the Japanese at and near the Mo-tien ling, and reinforcements were sent both to Keller and Rennenkampf for this purpose. On the 17th July, accordingly, Keller attacked the positions at the Mo-tien ling with a force in which the infantry numbered about 18 battalions, but drew off when it was found that they were strongly held.

On the 19th July, the twelfth division of the First Japanese Army

drove the enemy from Chiao-tao, since, after the attack which had been made by the Russians, it was desired to establish direct communication between this division and the centre of the First Army.

A road from Chiao-tao leads directly to Mukden through Pen-hsi-hu, and the advance that had been made by the 12th division now caused General Kuropatkin to become justly anxious for the safety of the Russian line of communication in the area to the north of Liao-yang. It seems that the fighting strength of the Japanese field armies (which was actually not more than 110,000 fighting men) was estimated by the Russians to be about 160,000; three divisions and several brigades of *kobi* being credited to the First Army, four divisions to the Second and two divisions and a brigade of *kobi* to the Fourth; while Kuropatkin could now dispose of only 140,000 sabres and bayonets. And he has therefore left it on record that, in his opinion, the Russian army was not yet sufficiently powerful to permit of the delivery of an attack on one of the enemy's groups without incurring the danger of defeat to the troops that were facing the others. The rainy weather, he said, had also so seriously damaged the roads as altogether to preclude the rapid movements that are necessary for victorious action, against troops which are converging against it, by a weaker force that is centrally placed. General Kuropatkin seems, nevertheless, to have felt that an endeavour must be made to free the Russian line of communication by driving back the force under General Kuroki. It was decided, in consequence, to move to An-ping, on the 23rd July, the bulk of the tenth European corps which had now reached Liao-yang, and was being followed by the seventeenth European corps. And the commander-in-chief himself went to the eastern front to supervise the operations.

During this interval the Second Japanese Army had been weather-bound at Kai-ping. On the 22nd the general headquarters of Marshal Oyama reached Kai-ping from Japan; and orders were then given that the Asada detachment should be returned to General Kuroki, and that the forces under Oku and Nodzu should advance simultaneously towards Ta-shih-chiao, which was believed to be held by a force of two corps, with a considerable body of troops behind them at Hai-cheng.

Oku went forward on the 23rd July, and on the next day the Russians evacuated Ta-shih-chiao after an indecisive action, while the Fourth Army moved slowly towards Hsi-mu-cheng. The Second Army then occupied Ying-kou on the 25th July, and on the 28th close touch was established between the Second and Fourth Armies, the main body of the Russians having drawn away from them.

On the 23rd General Kuropatkin had inspected the tenth corps as it was on the march from Liao-yang, but, finding that the troops were without pack transport and aware that the seventeenth corps was in the same predicament, he decided that an immediate offensive in the mountainous area was out of the question, more especially as the Russians were not well informed as to the dispositions of the troops under Kuroki. On learning that General Zarubaiev, who had been in command at

Ta-shih-chiao, had disregarded his orders—in the first place he had fought for too long a time and in the second he then fell back without offering further resistance—General Kuropatkin at once returned to Liao-yang. And the eastern force was now left without a leader, although General Sluchevski, the commander of the tenth corps, was told that if, as was to be expected, the First Japanese Army marched on Mukden, an attack must at all costs be made on it; should the enemy move towards Liao-yang they must be resisted to the last. (Map 5.)

If the Russians were afraid of the army under Kuroki, this general was not less anxious as to the intentions of Kuropatkin, the news of whose arrival at An-ping with a considerable number of troops had been received on the 24th July. Following the principle that the initiative should, if possible, not be left to the enemy, Kuroki, however, determined to deliver an attack; and calling up five *kobi* battalions from the line of communication he sent his troops on the 31st July against the Russians, who fell back, after severe fighting, and under cover of darkness, to positions on the hills lying to the east of An-ping. The fifth division had, on the 28th July, been placed under the orders of Nodzu, and on the 31st the Fourth Army advanced on Hsi-mu-cheng, which was evacuated by the Russians on the following day. Oku, who had moved forward on the 1st August, then occupied Hai-cheng without resistance, the Russians having now gone to An-shan-chan. The result of these operations was to bring the Second and Fourth Armies into close touch with one another, but the left of the First Army was still separated from the right of the Fourth by some 40 miles of rough hill and mountain.

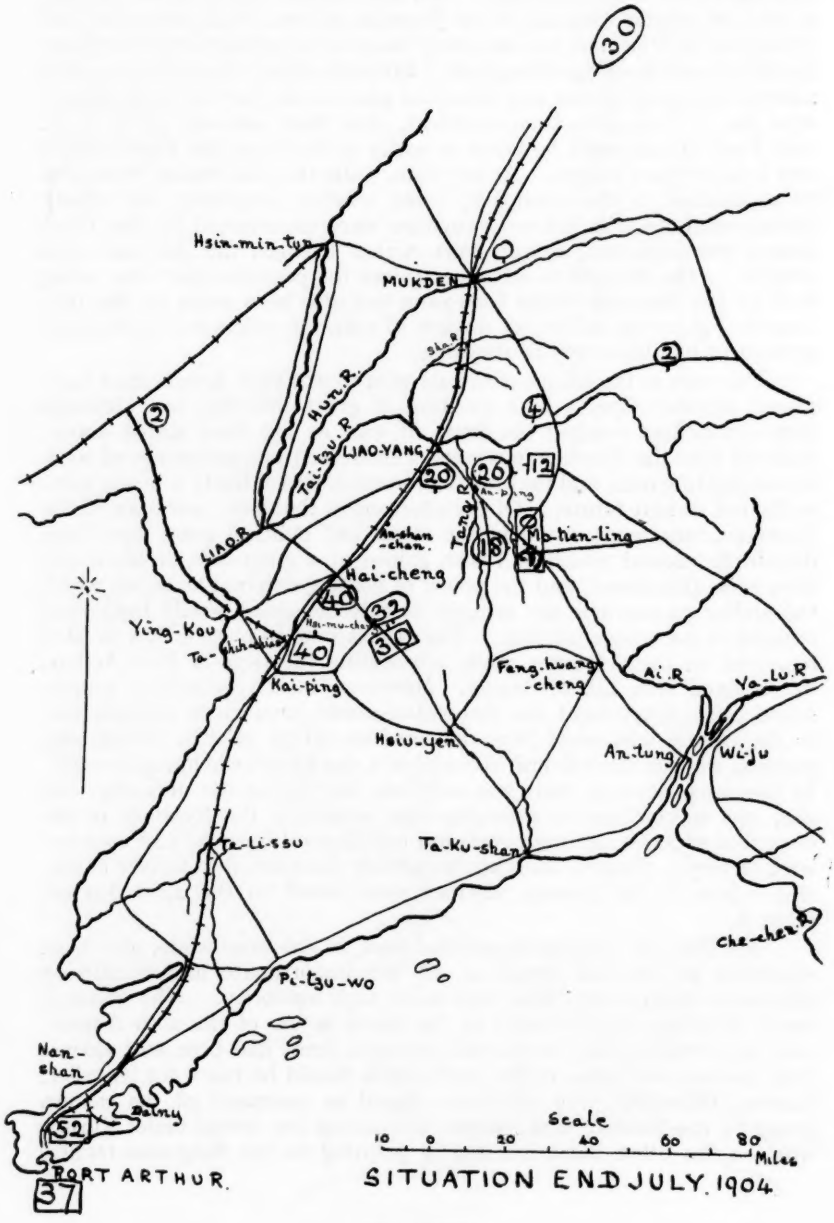
While the field armies had laboriously been effecting the plans of the commander-in-chief, the Third Army, which now consisted of three divisions, a couple of *kobi* brigades and other troops, had succeeded in closing on the fortress of Port Arthur; and at the beginning of August the Russian warships lying in the harbour were being struck by the unaimed fire of the batteries of the Japanese. It seems that the Russians now decided that the Eastern squadron must at last challenge the command of the sea, which so far had been yielded tamely to the enemy; or, at any rate, endeavour to break away either to Vladivostock or to a neutral port, and in doing so to save itself from destruction. On the 10th August, therefore, the bulk of the squadron, numbering some six battleships, four cruisers, and nine or ten torpedo-boat destroyers, left the harbour which was still being closely watched by the fleet of the Japanese, containing only four first-rate battleships, one old battleship, ten cruisers and sixteen destroyers. After an action in which the Russians lost one light cruiser and one destroyer, the greater part of the squadron returned to Port Arthur; but one battleship, two cruisers and four destroyers succeeded in reaching neutral ports in China, where they were interned. Three big cruisers also sallied out from Vladivostock, but when one had been sunk on the 14th August the others retired again to this harbour.

Although the Eastern squadron was still capable of leaving Port Arthur, and could in consequence still attempt to interrupt the com-

munications of the Japanese, it may not unfairly be said that the result of these actions had altered the naval situation radically in their favour; for if Port Arthur had been attacked primarily with the purpose of removing the menace of the Eastern squadron, the result of the action of the 10th August had shown that to a large extent this object had been effected. The situation on land was that preparations had now almost been completed for an assault on the defences of the fortress; and a great battle in the neighbourhood of Liao-yang could not, if the weather were fair, be postponed by the Japanese, until the results of an attack on Port Arthur were known, without incurring the hazard that one of the groups, into which the armies were still divided, would be attacked and defeated. What then was to be done? "Maintenance of the objective, offensive action, concentration and economy of force" are, as is pointed out in the Field Service Regulations, among the vital principles of the art of war, and if it is correct to assert that the "decisive place" was for the moment near Liao-yang, the objective of the Japanese must also for the moment have been the enemy's army. For, while it was no longer essential immediately to capture Port Arthur, it was far from being impossible that the armies of the Japanese would experience a reverse at the hands of superior numbers in what might be the decisive action of the war; since it was correctly believed that the Russians could bring at least 20,000 more troops into action than could the Japanese, and that they were likely in the near future to receive further reinforcements. It seems, then, at first sight that at all costs one or more divisions should have been sent from Port Arthur to Hai-cheng. It is quite true that they might not have arrived in time to take part in the action; for the troops could not have been conveyed northwards by rail, to have marched quickly would have been out of the question in the conditions of weather that were prevailing, and their transfer by sea from Dalny to Ying-kou and then to the front would have occupied many days. Little, however, would have been risked through the reduction temporarily of the force that was attacking Port Arthur, and everything might have been gained owing to the presence of larger numbers on the field of battle.

But war, as has been pointed out, is an act of policy, and it is often most difficult to decide whether, in any particular juncture, political or military exigencies shall govern its direction. It has been stated above that, from the military point of view, to have suspended the siege of Port Arthur and to have concentrated force for the battle that was impending at Liao-yang, would probably have been judicious. Governments and commanders, notwithstanding, must at times waive strict adhesion to principle and undertake operations which will make good copy for the press; even although it is, in general, bad policy to endeavour to popularise a war by means of feeding the avarice of a nation with conquests. Every man, woman and child in Japan was aware that Port Arthur, which in 1894 had been won through Japanese valour, had subsequently been filched by the Russians. The fortress was also to all

Map 5.



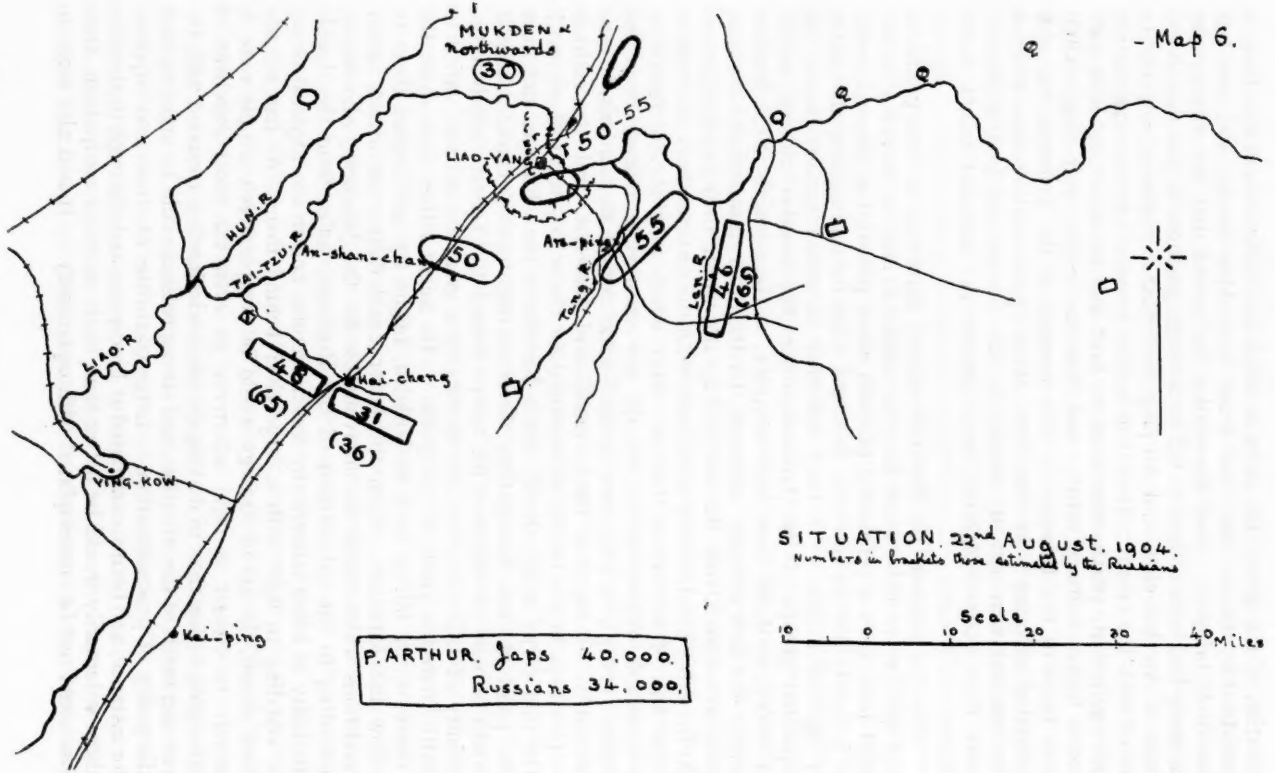
SITUATION END JULY 1904

the peoples of the East the proud symbol both of European predominance and of Russian might; and its recovery, therefore, had become a point of honour with the whole Japanese nation, which knew little of strategical niceties, but was definitely aware of a burning desire to thrust the interlopers from the stronghold. Probably, then, this was a powerful motive operating against any change of plan on the part of the Japanese, who also seem to have been confident, after their successes in the field, that Port Arthur could be taken as easily as had been the case when it was held by the Chinese. At any rate, while the field armies continued to be chained to their camps by rainy weather, desperate, but wholly unsuccessful, assaults (12,000 casualties were experienced by the Third Army) were delivered against Port Arthur between the 19th and 24th August. The decision to advance against the positions that were being held by the Russians round Liao-yang had also been made on the 18th August, but, owing to further deluges of rain, the orders for the forward movement had been held in abeyance.

The news of the failure of the attempt to win Port Arthur must have placed Marshal Oyama in a position of great difficulty, for, although large drafts had reached the front, it was, as has been stated above, believed that the Russians possessed a numerical preponderance of some 20,000 fighting men, and that big reinforcements were likely to reach them in the not distant future. Of the alternatives that were now open to the Japanese, retirement would in the moral and political sense have been disastrous, ground which had been gained at a great cost of life would have been abandoned, and the power of floating external loans, on which the ability to continue the struggle largely depended, would have been reduced, if not altogether lost. The armies were so placed, that to have remained on the defensive, while prosecuting the siege of Port Arthur, would have been full of danger. Moreover, inactivity after a reverse would have discouraged the troops and would have given the initiative to the enemy, who could have delivered an attack at their leisure and, perhaps, when in the full flush of confidence, due to overwhelming strength. In the circumstances, there was only one way out of the difficulty, and that was to continue to press the field armies of the Russians in the hope that superior fighting power and bold generalship would be crowned with victory. Oyama, therefore, resolutely determined to deliver battle, and orders for the general advance were issued on the 22nd August. (Map 6.)

The Russian commander-in-chief had, in the meanwhile, also been subjected to the full thrust of all the importunate and conflicting influences which beset those who wield high authority. The Viceroy, much disturbed by the result of the naval action of the 10th August, and by a rumour that the Second Japanese Army had been sent against Port Arthur, was again urging that action should be taken for its relief; General Bilderling, who had been placed in command of the eastern group of the Russian army which was facing the troops under Kuroki, was, on the other hand, incessantly pointing to the dangerous tactical

- Map 6.


MUKDEN
northwards
30
LIAO-YANG
50-55
HUN R.
TAI-TZU R.
An-shan-chan
50
An-pin
55
Tang R.
Lan R.
46
16
LIAO R.
48
(65)
Kai-cheng
31
(36)
YING-KOW
Kai-ping
P. ARTHUR. Japs 40,000.
Russians 34,000.
SITUATION. 22nd August. 1904.
Numbers in brackets those estimated by the Russians
Scale
10 0 10 20 30 40 Miles

situation of the group, the units of which had behind them the Tang, a considerable stream that was liable to sudden floods, and was but insecurely bridged. And Kuropatkin has stated that the reasons why his army had been obliged to fall back to the positions in the neighbourhood of An-shan-chan and An-ping were that: numerical superiority rested with the enemy; that their armies possessed better organisation and equipment, youth, inurement to heat and to movement over hills and a higher military spirit; and that the leaders were more skilful than those of the Russians The strength of the Japanese was also estimated as being: for the First Army, 65,000 fighting men, whereas the numbers were actually 46,000; for the Second and Fourth Armies, more than 100,000 fighting men, against the actual total of about 80,000.

For the moment the Russians stayed inactively in their positions, and whether to fight when the rain ceased to fall, or to avoid battle, must have been a perplexing problem, since powerful arguments could, as is nearly always the case, be urged both for and against the policy of vigorous action. To have delivered an attack against one of the separated groups of the Japanese when the weather cleared would, in theory, no doubt have been tempting, as the strength of the Russian armies was now 160,000; although, for the other reasons that have been given in outline above, this was perhaps not within their practical power. On the other hand, it is in accordance with the dictates, both of common sense and of experience, that an army which may shortly receive a considerable reinforcement, should not meanwhile deliver or accept battle. For, as is laid down in the "Field Service Regulations," "concentration of superior force, moral and material, and its ruthless employment in the battle, are essential for the achievement of success." The first corps would shortly reach Manchuria from Europe, and from this point of view, Kuropatkin, therefore, might justly consider that it would be wise to withdraw his troops behind the Tai-tzu, which in the vicinity of Liao-yang was now flowing in a great stream and varied in width from 100 yards to 300 yards. He might either then await the enemy, or, by falling back to Mukden, might try and induce them to follow the Russians; when the latter could deliver an attack under conditions which would be unfavourable for the Japanese, who would, according to the calculations of the Russians, suffer from the double disability of being numerically less numerous, and in the physical sense, of standing to fight with a large river behind them. As has already been stated, the art of strategy would be comparatively simple were it merely to consist in rigid adherence to even the most excellent of principles, rather than in making decisions which will correspond with the pressing needs of the situation, and strong reasons could be urged against the policy of procrastination. Large quantities of stores and supplies, for instance, had been accumulated at Liao-yang, and although to abandon them voluntarily would be better than to do so under compulsion, their loss could not be contemplated with equanimity It had also come to

be known both in the army and in Russia that, early in the war, Liao-yang had been selected as the locality where the Russian forces were to concentrate for the decisive conflict, and to yield this place might, therefore, injuriously affect the *morale* of both troops and nation. But again, a voluntary would be less unfortunate than a compulsory retirement. More important was the fact that if the Russians fell back behind the Tai-tzu without retaining, by means of a bridgehead, the power of rapidly recrossing it, the initiative would pass to the Japanese; who might then choose to stand on the defensive behind the strong line of the river, while troops were detached for the purpose of effecting the capture of Port Arthur; after which, such an accession of strength would be received by the enemy as would reduce considerably Russia's chances of final success. The existing bridgehead encircling the large Chinese city of Liao-yang was, however, not sufficiently extensive to guarantee freedom of manœuvre to the Russians, and the presence of a numerous population of Chinese within the fortifications, whose sympathies were at that time on the side of the Japanese, would be prejudicial to the rapid and hidden movement of troops by the Russian commanders. To have followed a Fabian policy might, therefore, have been prejudicial to the security of Port Arthur. The preservation of the army, however, was evidently the most important of the many interests of the Russians, for if the field force were ruined, the garrison of Port Arthur, and also every other Russian interest in the Far East, would be sacrificed. It is plain, therefore, that, whatever the drawbacks, a retirement behind the Tai-tzu must have been made if the army could be saved only in this way; and the ruling factor was whether there remained even a chance of victory for the Russians in a battle which would be fought out in the areas to the south of the river, and without the assistance of the reinforcements that were coming to the front. The bloody repulse which had been inflicted by the garrison of Port Arthur on the Third Japanese Army showed that such a possibility did still exist, if the action could be brought about in conditions similar to those obtaining at the fortress. Circumstances had placed this possibility within the power of General Kuropatkin, and he may, in consequence, have decided to accept battle; for strong positions had already been in part prepared, some 15 miles in extent and in a semi-circle whose circumference was half-a-dozen miles from Liao-yang; the left resting on the Tai-tzu, which could be crossed by a number of bridges that were covered by the bridgehead, and the right being five miles from the river, but screened and protected by an unbroken expanse, or what may be called a dense forest, of giant millet at its highest growth.

The forward movement of the armies of the Japanese began on 23rd August, on the 27th, 28th and 29th the Russians retired to the lines that covered and were six miles from Liao-yang. On the 30th, when hard fighting was in progress on the whole front, Oyama, who no doubt had observed, and had perhaps fathomed the cause of, the previous hesitations and halting measures of the Russian commander-in-

chief, rightly took a great liberty; and with splendid daring first one and then a second, division was moved across the swollen Tai-tzu above Liao-yang. The manœuvre was successful, the Russians abandoned all their positions to the south of the river on the 3rd September, but then withdrew almost unpursued to the area between the Sha and Hun rivers; and their victory cost the Japanese no fewer than 23,500 casualties, as against some 18,000 that were experienced by the Russians.

Having received reinforcements, General Kuropatkin delivered a faltering attack on the 5th October, but was repulsed in the battle of the Sha ho (Sha river) which lasted until the 18th of the month. Alexiev was then recalled, and both armies settled down to endure the piercing cold of the winter in long lines of closely locked trenches, which resembled those that were spread across France during the last Great War. Meanwhile, a Russian squadron of 12 armoured vessels, besides other ships, four of the first being equal in power to the best of those of the Japanese, had sailed from European waters in October and November for the Pacific. Port Arthur fell on the 1st January, 1905, when the reinforcing fleet was still thousands of miles away, and with the fortress went the Eastern squadron. And from the 19th February to the 10th March, in the battle of Mukden, the Japanese, whose fighting force then amounted to about 250,000 men, or the equivalent of 18 divisions, made desperate efforts to gain a decisive victory over the Russian armies, which numbered between 330,000 and 340,000 fighting men; but, again, the Japanese, although they drove the enemy from their positions, and almost enveloped their armies, were disappointed. A period of comparative inactivity now supervened on land, while the whole world watched, half in anxiety, half in derision, the very deliberate movements of the second Pacific squadron, as it was called. This, in the end, was annihilated by the Japanese on the 27th and 28th May, when endeavouring to pass through the straits of Tsu-shima. Both sides were beginning to feel the strain of war at this juncture, and in Russia, in addition, political unrest was rife. Negotiations, therefore, were soon opened for the conclusion of a peace; and in September, 1905, the Japanese obtained, as the just reward of their tenacity of purpose, the political objects on account of which the challenge had hardily been given to the immense power of the Russian Empire.

SINGAPORE.

By CAPTAIN R. J. WILKINSON, O.B.E., 2nd Bombay Pioneers, Indian Army.

MUCH has been written of late on the subject of the new naval base at Singapore. It is proposed herein to epitomise the various points raised and opinions expressed.

First, however, to try and define the requirements of, and geographical conditions necessary for, an overseas base. It will, of course, be understood that the introduction of a fighting air force has rendered necessary the substitution of the term "overseas base" for "naval base."

The ultimate object of all war is the destruction of the enemy's forces. In land warfare we arrive at that end partly by the capture of various geographical positions. In the Palestine campaign, for instance, the capture of Junction Station split the Turkish Armies into two portions, thus enabling them to be defeated in detail.

In the case of warfare at sea or in the air, however, neither fleet nor air squadron, unassisted by land forces, is capable of capturing a position; an air force cannot even take prisoners. Naval and air warfare, therefore, are essentially mobile and partake of the nature of the encounter battle.

But although neither naval nor air warfare can be described as a war of posts, yet it is true to say that the breaking of an enemy's sea or air power cannot be achieved without posts. History shows how greatly naval strength depends on the possession of bases upon which fleets can retire to refit, and replenish with stores, fuel, ammunition etc.

Broadly speaking, these posts can be divided into two categories: (*a*) Overseas Bases; (*b*) Fuelling Stations. An overseas base must always be capable of defence; a fuelling station may or may not be, according to circumstances. Sometimes an overseas base is also a fuelling station.

In the case of a land force, the success of its strategical plans depends on its communications. These lines of communication follow definite routes, such as roads, navigable rivers, railways, or routes along which a railway can be laid, which are more or less vulnerable along their whole length and therefore require definite protection. Sea communications, however, are only determinate where they converge on defiles such as the Straits of Dover, the Straits of Gibraltar, the Suez Canal, or the Straits of Malacca. Although in peace there are undoubtedly

conventional sea routes, there is no obligation on the part of any vessel to use them, particularly in time of war.

We may, therefore, say that, while the communications of an army can be cut by an enemy anywhere along their length, those of a fleet can only be cut at the defiles.

A further difference between land and sea forces is that whereas, as an army advances, so its railhead supply depôts follow closely in rear, a fleet is bound sooner or later to return to its base, even though a proportion of its needs are brought to it by supply vessels. For this reason war vessels are described as having a certain radius of action, depending on their size and fuel-carrying capacity.

Vessels burning oil have a much greater radius of action than those which burn coal.[1]

The development of the air arm has introduced another factor into the science of Logistics. While the communications of an army are vulnerable throughout their length, and those of a fleet are only vulnerable at the nodal points, those of an air force are not normally vulnerable at all, except, in the case of long flights, at landing grounds. At the same time, an air force partakes of the characteristics of a fleet in that it is tied to its base and has a definite radius of action, although that base is more easily capable of being advanced, and usually does, where practicable, follow the land force with which it is co-operating.

Having then established the necessity for overseas bases and having shown the situation of the "Achilles' heel" of maritime communications, *i.e.*, the naval defiles, it immediately becomes obvious that the maintenance of naval supremacy by any Power demands the acquisition of bases in the vicinity of these nodal points for the defence of its own commerce, which implies the power of being able to take the offensive by attack or blockade, against the mercantile as well as the armed fleets of a potential enemy.

For the proper maintenance of an overseas base, however, there are three requisites:—

(1) Its communications with the Home Base must be kept free by the fleet so that it can be supplied with all the various stores, ammunition, guns, spare parts, fuel, etc., necessary for the vessels and aircraft based on it.

(2) It must be secured within reasonable limits by fixed defence; otherwise it is either open to capture by a small force in the absence of the fleet or air squadrons, or a portion of these mobile forces will have to be detached from their legitimate work for defensive measures.

(3) It must be capable of docking the largest battleships of the fleet.

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[1] "Influence of Oil on Imperial Organisation." *R.U.S.I. Journal*, February, 1923.

The directions from which an overseas base is open to attack and the measures available for close defence are as follow :—

Attack.	*Defence.*
(1) From the sea.	By coast defence batteries, submarines, and mine fields.
(2) From the landward side, in the case of a base not situated on an island.	By land fortifications, garrison and covering troops.
(3) From the air.	Anti-aircraft artillery, defence squadrons, and by situating the base in such a place that hostile aircraft must operate from sea-plane-carriers, thus limiting the size and bomb-carrying capacity of the attacking planes.

It is axiomatic that no maritime fortress can be reduced by sea or air power alone. It is invariably necessary to land a force at some other point on the coast in order to turn it from the landward side.

It has often been said that such and such a place commands such and such a defile. From the above it will be obvious that no place commands anything beyond the range of vision, and then only so long as its guns can be kept supplied with ammunition.[1] Also that the importance of an overseas base lies only in its value to surface and submarine fleets and air squadrons.

If mere geographical position were synonymous with command, there would appear no reason why Ceuta should not command the western entrance to the Mediterranean instead of Gibraltar, or Obok in French Somaliland take the place of Aden.

We may say, however, that so long as Great Britain holds undisputed command of the routes leading to her overseas bases, so long will those places command the defiles over which they stand guard.

Let us now apply these principles to Singapore. This place stands at the southern end of the Straits of Malacca. For 200 miles to the westward the average width of the Straits is under 25 miles, whilst to the eastward are numerous small islands which facilitate air,[2] submarine, and minefield defence. The result of this is that so long as it is kept supplied, Singapore commands and is in a position to block effectually, the principal line of communication between the Indian Ocean and the Pacific. It is now proposed to convert it into a fully-defended overseas base. Its proximity to Burma, India and the Persian Gulf and the safety of its communications therewith, due to British military possession of the Suez Canal, render it always certain of essential supplies, *i.e.*, coal, oil and such military stores as are obtainable from India.

[1] Although the command can be extended by means of minefields.

[2] The radius of action of an aeroplane varies from 100 to 250 miles, according to size; flying boats, 400 to 500 miles.

The country to the north, the narrow Malay Peninsula, is under British protection, is easily under the control of British naval guns, and therefore does not offer very good prospects to any hostile Power who might think of making a landing with the object of attacking Singapore from the north. In any case, there being no important land routes leading to it from modern arsenals, any landing force would have to be supplied by sea, a contingency which would necessitate previously obtaining command of the sea.

We therefore see that, when fully fortified and developed, Singapore will fulfil all the conditions necessary for an overseas base, as not only will it be able to defend itself from seaborne attack, but its geographical position and the narrow approaches to it will make any such attack peculiarly hazardous. At the same time, the nature of the country to the north and the fact that it stands on an island[1] renders it comparatively safe from land attack, while for the same reasons attack by air would either have to be seaborne, or based such a distance away as in either case materially to reduce the size of machine useable and the weight of bombs capable of being carried.

Let us now consider the advantages and strategic value of Hong Kong (which is about to be given up as an overseas base) as compared with those of Singapore.

The sea communications of Hong Kong are vulnerable to attack by Japan from Formosa, by the United States of America from the Phillipines, or the French from Indo-China, as is obvious from an examination of the map.

As a means of facilitating the defence of Hong Kong, a large piece of the mainland was acquired by Great Britain. This land frontier would require many more troops for its defence than the northern frontier of Singapore. At the same time, not only is the interior of China in land communication with modern arsenals, but the landing of a modern army at some other point on the Chinese coast for an attack on Hong Kong might be difficult to prevent.

Similarly, aerial attack on Hong Kong would be easier than on Singapore, there being no physical obstacle to the establishment of aerodromes on the landward side.

The island of Sumatra or any other of the Dutch East Indies offer no menace to Singapore so long as Great Britain holds command of the sea.

Another aspect of the potentialities of Singapore lies in its geographical position *vis-à-vis* India. An examination of the map will show that there are only four sea routes into the Indian Ocean, *i.e.*—

(*a*) from the Atlantic *viâ* the Cape of Good Hope.
(*b*) from the Atlantic *viâ* the Suez Canal.
(*c*) from the Pacific south about *viâ* Australia.
(*d*) from the Pacific *viâ* the Straits of Malacca.

[1] Connected to the mainland by a causeway.

The Suez Canal, being guarded by British bayonets, any Power proposing to attack India by that defile would first have to drive the British Navy from the seas and our troops out of Egypt.

The Straits of Malacca, as pointed out above, are guarded by Singapore, and so long as Great Britain holds command of the sea this gateway of India is also secure. Routes (*a*) and (*c*) were flanked by British bases and fueling stations and were too long to be practicable for a hostile fleet without intermediate bases. Such a fleet arriving in the Indian Ocean by one of these routes would do so with exhausted bunkers, and reduced power of speed due to foul bottoms.

Broadly speaking, the naval strategy of the British Empire may be summed up as consisting in the defence of Imperial sea communications.

Before the War, this object was attained by maintaining fleets of varying strengths in the various seas of the world. In 1914 Great Britain owned about eighty battleships, besides numerous cruisers and lighter craft. By the terms of the Washington Conference the British Empire is restricted to fifteen capital ships, whilst cruisers and submarines are restricted as to armament and tonnage. This means that, instead of having several battle fleets, the British Empire is now confined to one, and therefore this fleet must not only be very mobile but must have bases which will enable it to operate in any sea.

A modern battleship can carry coal for ten days' steaming. In the same space, she can carry oil for 22 days, or, by utilising double bottoms, etc., enough for 56 days' steaming.

A glance at a map will show that Singapore is the geographical centre of the Empire, and that from it a modern capital ship can reach across the Pacific or the Indian Ocean without refuelling.

On the other hand, without a first-class naval base at Singapore, the battle fleet of the Empire would be shut out of the Pacific for want of docking and repairing facilities. At the present time the only docks capable of taking a modern battleship or aircraft-carrier, *i.e.*, one with a beam of approximately 100 ft., are in the United Kingdom.

It will, therefore, be seen that Singapore is a vital necessity to the security of our trade routes and the defence of Australia and New Zealand, as well as other parts of the Empire.

SOME AFTERTHOUGHTS OF THE WAR IN EAST AFRICA, 1914–1918.

By Colonel G. M. Orr, C.B.E., D.S.O., Indian Army (Retired).

I.

TO the public, even to the fighting Services, the war in East Africa remains unknown. The man in the street, and the officer in his mess, would probably remark, " Was there not rather a bad show at a place called Tanga, and did not Smuts go out there and finish the business? " It was not the troops who were to blame for Tanga; and it was not General Smuts who defeated the enemy forces. However, that is another story.

Unfortunately, for financial reasons, the Historical Section of the Committee of Imperial Defence appears not to be in a position to produce a history of the war in East Africa for a long time to come. And yet it was a war which has immediate lessons both for the statesman and for the soldier. If the operations in the distant and subsidiary theatre of East Africa had little effect on the progress and climax of the Great War, the result does not detract from the value of the lessons. The question is whether those lessons are being given effect to, or whether they are even being considered.

II.

The armed forces of the Crown Colonies of Africa are under the Colonial Office, by whom they are organised and administered. They have hitherto been maintained at a strength sufficient for internal security and for dealing with raids by uncontrollable tribes outside their frontiers. Let it be said at once that there is no intention in this article of advocating the maintenance of armed forces to meet war against a large and modern equipped army. Nevertheless, it is for grave consideration whether the standard of strength should not be raised so as to meet any forces originating from neighbouring countries of similar size and resources to their own.

It must be remembered that our colonies in Africa, such as Kenya, Uganda, Nyassa, Northern Rhodesia, Nigeria, Ashanti, Sierra Leone and Gambia had (and still have) frontiers which marched with those of colonies of Great Powers. These Crown Colonies may well have given little thought to considerations of war organisation, even although they were adjacent to strong potential enemies: they would look to the home government. It is, therefore, for the Overseas Defence Committee and the Colonial Office to account for the fact that measures necessary to

mobilise a country for war had not been foreseen; that local governments and officials did not know what to do or how to do it; that ordinances were not ready in draft to receive the signature of the local authority whereby measures necessary to a state of war could be put in force; that an intelligence service did not exist which could put at the disposal of a commander information regarding the *terrain* or resources of the enemy country, or which could function when war began. Now that the consequences and effect of the failure to do these things are recorded, if not published, those who will be chiefly concerned with waging war have the right to expect that the lessons have been taken to heart and that the same faults will not be repeated. The settler who had to leave his farm or his business in order to form an impromptu defence force; the native who had to provide his oxen for transport or food, or to serve himself as a carrier; the harbour and railway official who had to meet strange unheard-of demands—these have a right to know what their part will be, and must necessarily be, when war comes. Time, so precious in war, will then not be wasted, confusion and friction will be avoided, and the soldier when he comes will not have to explain what is wanted and why, to beseech for action to be taken, to fashion unorganised or refashion wrongly organised material.

It is feared that the advice of the Chief of the Imperial General Staff, on whom rests the responsibility of giving advice in matters affecting the security of the Empire, is not sought directly by the Colonial Office. Nor does the War Office have any direct dealings with forces under the Colonial Office. The General Staff can only bring their advice and views to bear either through their single representative on the Overseas Defence Committee or else by criticising the reports which inspecting officers submit to the Colonial Office and which in due course are passed to the War Office. It is a belated and roundabout method. It is also an unfortunate legacy of the past that the Colonial Office is jealous both of criticism and advice. The responsibility for the preparation for war is, therefore, in the hands of a department whose officers are, by the nature of things, untrained to think in terms of war or of the measures necessary for preparation for war. While in the colonies themselves civil administrations, whose knowledge of war has been restricted to expeditions of two or three hundred men against ill-armed tribes and whose chief military officers have been in no sense responsible for, or trained to give, advice for security against a stronger and properly armed enemy, are ill equipped to put together a war machine, or evolve a sound military plan. The inadequacy of such a system to deal with the problems of war was very obvious when war arose.

At the outset of war the 2,200 odd miles of land frontier of German East Africa marched with the frontiers of four different British Colonies. In each colony the administration had a negligible armed force under its orders. There was no laid down policy to be followed, and there was no authority to co-ordinate any plan. There had been no measures thought out in peace time which could be automatically introduced,

because there had been no one competent to know what was needed. Each Colony therefore took stock of what it had in the shape of armed forces, military and police, and called on the colonists to form local defence detachments. Every difficulty of organisation and administration, to say nothing of command and leadership, which can only arise under unforeseen conditions, at once raised its head. Each Colony looked to its section of frontier which marched with that of the enemy, and wondered what would happen. Uganda felt that everything depended on the inviolability of the Uganda railway, which, however, lay entirely within the colony of British East Africa (as Kenya was then called). British East Africa thought chiefly of Mombasa and Nairobi :—Mombasa, because it was its only link with the Empire oversea, Nairobi because it was the seat of Government. But the railway to Uganda started from Mombasa, and ran through Nairobi at an average distance of 50 miles from the German frontier, so that the fear for it was common to Uganda and British East Africa. Northern Rhodesia and Nyassa, both of which fell short of Uganda and British East Africa in armed forces, actual and potential, and in means of communication, felt their isolation and their distance from sources of reinforcement. Finally, when the soldier came, the inevitable friction ensued, because the soldier demanded what was vital for the support of war and the civil official did not understand either the uses or the urgency of the measures asked for.

In view of the past, it is instructive to be able to turn to an official publication which shows the measures that existed four years after the war. A pamphlet entitled " Notes on the Land Forces of the British Dominions, Colonies, and Protectorates " was issued with Army Orders for May, 1923,[1] and gives the situation in each colony at the end of 1922. It may be seen from this pamphlet that the local forces in each colony consist of (*a*) whole-time regular troops recruited from tribesmen, (*b*) local defence forces, composed usually of Europeans, (*c*) armed native police. There are two " Inspector Generals," one for East and one for West Africa, who are British Army Officers lent by the War Office. They have their headquarters at the Colonial Office in London. They are the military advisers of the Secretary of State, and also of the Governors of Colonies to which they make periodic inspections. The local defence force arrangements repay attention. In Kenya, an ordinance has provided for a territorial force, but it is not yet established. In Uganda, no action has yet been taken regarding a proposed defence force. In Northern Rhodesia a volunteer force is very short of its establishment of 500 ranks. In Nyassa, a volunteer reserve is in process of reorganisation. In Nigeria and Sierra Leone, native volunteer companies and British rifle clubs are under consideration. Only the Gold Coast has volunteer companies and rifle clubs in being. So much for the progress in organisation of defence under the ægis of the Colonial Office.

A territorial force on a voluntary basis is avowedly the cheapest form of defence. A proper organisation commensurate to the size and

[1] There has been no new issue, nor any amendment, in 1924.

responsibilities of the community is a factor of defence which a government should ensure, even if there is an individual disinclination to fill the framework. Mr. Fortescue has reminded us that preparedness for war is always reduced to the lowest possible figure " by the old and crude expedient of paring down naval and military expenditure." That " lowest possible figure " must include at least the cost of a framework. Would that every citizen who aspires to represent his fellows in Parliament, and every civil servant of government, were made to read Mr. Fortescue's " History of the British Army." They would at least see that failure to learn the lessons of the past is no new thing in the dealings of the British Government with War.

One cannot believe that progress, four years after the war, would have been so slow if the military advisers to His Majesty's Government had a direct responsibility for the organisation of defence and preparedness for war in the Crown Colonies. It is necessary to repeat that the soldier on whom the difficulties and dangers of war directly fall, has the right to know that a country in which he may have to fight, or which may have to provide the sinews of war, has been organised to meet a state of war. The past gives him no confidence for the future. In the absence of knowledge that steps have been taken, he can only believe that nothing has been done; that no ordinances exist for the provision of transport, for the control of railways and harbours, for the introduction of martial law if and when necessary; that no system of intelligence is in being. As for intelligence, we know, from the official publication already quoted, that the Intelligence Section of the King's African Rifles formed in the Great War has been abolished owing to lack of funds We are told that the system has been reverted to " whereby intelligence is collected and distributed by intelligence officers in each of the territories in British Central Africa." Those who have some knowledge of the standard of intelligence work carried out there before the war can have little confidence in such a system. Here, again, unless our General Staff, who have the knowledge of what is required and of how it should be acquired, have direct responsibility for its organisation, the results will fall far short of what is essential. The enormous waste of British money in many past campaigns (of which German East Africa is a notable example) may be directly traced either to failure to expend the small sums required for essential intelligence which can only be acquired in peace time, or to the neglect or resentment of military advice on points necessary to ensure the timely use of local resources when war comes.

III.

There are strong reasons why the results of a study of the war in East Africa should be given to the Army. The *terrain* and climate of Western Europe are by no means the only conditions under which the military forces of the British Empire will have to fight another war, or even the next war. Our commitments in Africa are big enough to

involve us in a war on their own account. It is most necessary that those on whom may be put the responsibility of directing and leading large forces under tropical African conditions should know the lessons of a somewhat bitter experience.

It was the first time that war had been conducted in an equatorial climate and *terrain* between large forces using every modern contrivance —heavy and field artillery, mortars, bombs, mines, mechanical transport, wireless, and aeroplanes. Organisations were on modern principles. Armaments were similar on both sides. White troops were used in large numbers in a climate quite foreign to their previous experience. Large forces moved hundreds of miles through a tropical country where no roads existed, where footpaths had to be broadened to take wheeled traffic, where very formidable natural obstacles had to be overcome, and where a notoriously unhealthy climate had to be endured.

The writer proposes to confine his remarks, first, to the composition of the main force in 1916 and to the organisation of the transport on which its movements depended, and, second, to the changes both in composition and in transport of the main force which operated in 1917; and, finally, to draw some inferences under those headings as lessons for the future.

IV.

The lateness of the decision, after a year of war, to conquer the enemy colony was no doubt the cause which forced the Imperial Government to use such troops as it could put its hand on at the time to form the army of invasion. Such a heterogeneous collection of types of the soldiery who serve the King in his Empire was certainly not collected in any other theatre of war.[1] In 1916, while General Northey operated in two or three quite small columns from the north of Lake Nyassa, a very large force, under General Smuts, invaded the German colony from the north. After the preliminary operations which resulted in the occupation of the Kilimanjaro area, this force became finally organised as follows :— (A) A "Coast" detachment of one and a half Indian battalions. (B) A "Lake" detachment of one Indian battalion, one King's African battalion, two locally raised native corps, a Maxim section, and a 15-pounder field gun. (C) Line of communication defence troops, consisting of some seven battalions, chiefly Indian. (D) A main force organised to advance on two lines of approach to the Central Railway.

Of the main force in 1916, the column under the personal command of General Smuts comprised a division, consisting of two brigades of infantry composed of two white battalions, one East African and five Indian battalions, and—as divisional troops—of a field battery of South African 13-pounders, two armoured car batteries and a coloured South African battalion; a reserve of two South African Infantry battalions, a miscellaneous collection of artillery (ox-drawn 12- and 15-pounders, mule-drawn 5-inch and motor-drawn 5·4-inch howitzers), an armoured-

[1] *See* "Note on the Composition of the Forces in East Africa" at end of article.

car battery, some mounted Boers, a squadron of Indian Cavalry and some British East African mounted rifles. To these were added later a brigade of four mounted Boer regiments. The other column, under General van Deventer, consisted of five mounted regiments, six infantry battalions, and four field batteries—all from South Africa—two howitzer batteries and an Indian pack battery.

The transport of this force as a whole had been organised on the basis of mules for first line, ox wagons and carts for the divisional train and ammunition columns, mechanical transport for the supply columns. The type of mechanical transport was heavy, *i.e.*, 1½-ton to 3-ton lorries. It is not known what the actual arguments were which led up to the decision to organise the transport with animals in first and in the second line, and heavy mechanical transport on the lines of communication. There are, however, certain facts which were within the knowledge of those responsible for advice on the best forms of transport. Thus :— the recognised form of transport in those countries was " carrier " ; practically the whole of German East Africa was infested by tsetse fly, and large areas which would lie in the lines of advance were known to have a great density of infection; there were no metalled roads, and very few of the routes which were designated by the name of road were known to be broader than footpaths; the soil everywhere was known to be such that under wheeled traffic it would pulverise in dry weather and become impassable with wet weather. On the other hand, there were certain factors which militated against the use of carrier transport. In the first place, the local authority was entirely opposed to recruiting the ample native population. In the second place, the inclusion of white troops in large numbers meant a larger amount of transport than if the force had been composed of coloured troops. Not only is more transport per head required for the normal maintenance of white, as against coloured, troops, but in a tropical climate, notoriously unhealthy, the only hope of safeguarding a white man's health and keeping up his physical fitness is to carry additional items of medicine, food, clothing and shelter. This means more than the normal transport. In the third place, looking to the size of the columns it was no doubt felt that if increased by thousands of carriers they would become too unwieldy and their movement, quartering, and maintenance too difficult. It seems, therefore, that the organisation of the army not only into very large columns advancing on a single road, but also by the inclusion of such a large proportion of white troops, precluded the use of the recognized transport of the country.

Under the circumstances the alternative of animal transport was decided on, in spite of the probable effects of the certain ravages of " horsesickness " and " tsetse fly." Unfortunately, ox draught was used in the " train " to carry the kit and food which was required directly troops got to their bivouacs. Not only was mobility thereby hampered, but the health of the troops was prejudiced. Oxen cannot work in tropical midday heat and require a definite number of hours for resting

during the day, and for grazing. They cannot keep up with troops on the move, and in East Africa they did not. The conditions under which oxen can be kept fit limit their employment to the lines of communication. The ravages of horsesickness and tsetse fly must have been foreseen, and the limit to the resources of replacement, particularly in horse-flesh, must have been gauged. The employment, therefore, of large numbers of mounted troops in such a country can only be attributed to the belief that success would be achieved through their mobility before immobility set in. Unfortunately this was not the case. It is not known what the actual losses in animals were in 1916, but the returns for mid-November of 1916 show that 10,000 horses, 10,000 mules, 11,000 oxen and 2,800 donkeys died.

Given that such a large force was to operate and that the lines of communication would extend for hundreds of miles beyond any railhead or advanced depôts, the use of mechanical transport for maintenance was, no doubt, a right solution. But when one considers the lack of roads and the nature of the soil, the decision to use a heavy type mechanical transport needs more justification than appears on the surface. It may have been due to inability to get any other type at that period of the war, or it may have been due to the fact that a light type, each vehicle of which could only carry 600 to 1,000 pounds, would require a very large establishment of *personnel* and would increase the difficulties of supply. The fact remains that the heavy mechanical transport had practically ceased to exist by October, 1916. Indeed, from as early as the last week of May the lift of the mechanical transport had been insufficient to carry more than half rations. Nor did the lift ever again come up to full requirements, in spite of such renewals, replacements and additions as could be effected. Although this was in part due to an insufficient number of lorries to keep pace with the ever-lengthening lines of communications, it is believed to have been due also in part to lack of sufficient workshops in the advanced sections, and to lack of spare parts to replace the incessant breakages caused by work across such awful country. The soil, whether in dry or wet weather, could not stand heavy traffic, and it reacted so that heavy machines simply broke up.

It was the inability of the transport to provide full rations and other things necessary to keep up bodily strength and to mitigate the dangers of the climate, just as much as the climate itself, which was the cause of the enormous wastage in white *personnel* in 1916. We are told that in the autumn of 1916 (after barely seven months' campaigning) 12,000 white troops alone were evacuated. A medical history of the war in East Africa will teach but a portion of the lessons from the past for the future, if it omits the relationship of the incidence of sickness to the insufficient food and lack of means to fight the climate.

V.

On the departure of General Smuts after the 1916 campaign, a far-reaching and fundamental reorganisation took place during the

command of General Hoskins. Mounted units were reduced from nine white to one white and one Indian regiment, and a company of mounted King's African Rifles. The South African Infantry were replaced by newly raised East African native battalions, though two reconstituted South African battalions were brought back, only, however, to dwindle to nothing in a few months. The prejudices of local authority to the recruitment of native carriers were overcome and the field force for 1917 was equipped in first and second line with carrier transport. Light mechanical transport took the place of the broken down heavy lorries on the lines of communication. By 1917 the enemy's strength had been very little diminished and the main field force was kept at practically the same strength as in 1916, as the totals of units given below will show. The natural difficulties of country and climate were worse than in 1916 because operations were carried on in low country. The enemy, with higher training and more experience, stood to fight more often and in greater strength on the battlefield; and he fought with a determination that was lacking in the previous year. Yet the troops fared better, although the length of communications was as great as any north of the Rufiji, and the feats of marching were second to none in the previous campaign. In 1916 the main field force under Generals Smuts and van Deventer had averaged nine white mounted regiments; five white field batteries, several other batteries, two Indian pack batteries, and one West African battery; ten white, five Indian and two African battalions. In 1917 the main field force, comprised in the Kilwa and Lindi columns, consisted, after August, of one white and one Indian mounted regiment and an East African mounted company; three Indian pack batteries and two African porter-carried batteries; one white, five Indian, six or seven East African and five West African battalions. The field force of 1917 lost nothing in fighting efficiency, indeed it actually gained, by the substitution of African for white battalions; nor did it lose in strategic mobility by the reduction of mounted troops. In general, the difficulties of maintenance were considerably lessened

VI.

The inferences to be drawn from the composition of the forces and the organisation of transport in a tropical, unhealthy, and roadless country are these: (*a*) White troops should not be used in large numbers, because their needs increase the difficulties of transport for their maintenance out of all proportion to their usefulness and cost. (*b*) The use of large formations of mounted troops is undesirable because, putting aside the doubtful advantage of their mobility, which is limited by the type of country, the disadvantages attending their maintenance and the provisions of a suitable type of transport are very great, and wastage in animals is so rapid that replacement cannot keep pace with it. (*c*) Transport accompanying troops in the field should not be dependent on animals but should be "carrier." (*d*) On lines of communication,

mechanical transport can be successfully used if it is of a light type, but white *personnel* should be restricted to the supervisory ranks only.

Once one gets away from the incubus of white troops, proper thought can be given to the supply of sufficient transport for the needs of the individual white officers, non-commissioned officers and men who will still form part of any force of coloured troops. Nothing is more important than this. The replacement of white *personnel* doing duty with coloured troops is always a difficult matter. They must know the language and customs of their men. The difficulties of maintaining a reserve of officers, adequate in numbers and training, reacts on the troops and detracts from their efficiency. Both in 1916 and 1917 the privations due to inadequate food on the top of the peculiar strain of the operations took a heavy toll of officers. Indian battalions suffered more than African battalions from this cause. It was rare indeed for Indian battalions to have sufficient British officers, even including the youngest and least experienced, to command all four companies. African battalions have an establishment of British officers which include platoon commanders. In an Indian battalion the place of an absent British company commander has to be taken by an Indian officer. Gallant gentleman as he is, an Indian officer has not the military education, or the initiative, to command a company under the conditions of "bush" warfare. African battalions are also fortunate in having a number of selected British non-commissioned officers.

Probably the most difficult thing to arrive at in the organisation of a force with carrier transport is the size of its columns. To show the dimensions to which the ration strength of a column with carrier transport will swell, the writer will give his experience. During 1917 he commanded columns, first, of four battalions (one South African, one Indian, one East African and one West African), four guns and four Stokes mortars; then of two battalions (one East African and one West African), four guns and four mortars; and, finally, of five battalions (two Indian, two East African and one West African), four guns and seven mortars. In each case there was a quota of technical troops, field ambulance and ammunition column, and, latterly, a portable wireless. In the last case the total bayonets did not number more than 2,500; the ammunition column carried a sub-normal allowance of rounds; the carrier train only carried one day's rations; the field ambulance was alarmingly small:—and yet the ration strength was over 10,000 mouths. In arriving at the size of a column, the first things to be taken into consideration are the enemy organisation and methods and the relative quality of troops. While no column should be too weak to operate against any probable opposition on its own line of advance, the possibility of employing columns in co-operation must be given careful thought in order not to fall into the error of allowing a single column to become unwieldy. One ought not to particularise, but in the writer's opinion a proper ratio of mobility and efficiency will be attained if a column does not exceed two battalions (or 1,600 bayonets) with two

guns, each battalion having two mortars and a section of machine guns besides its Lewis guns. Such a column requires a complete brigade headquarters, and its carrier train should not have less than two days' rations. Mobility will be gained if battalions are African, because the men can live on the country.

The question as to what number of columns can work in co-operation effectively under one commander is somewhat difficult of solution. In a country in which operations will take place at many days' distance from a railhead, maintenance is not only difficult in itself, but on the elasticity of the transport depends the commander's power of manœuvre. If the whole force in the theatre of war consists of only two or three columns under the supreme commander, the latter can organise and order things as he likes. But if the force is a large one, and if groups of two or three columns operate in different areas under subordinate commanders, then success will depend on the extent to which each subordinate commander has the power to dispose of transport in his area. The " rendezvous " where he will take over his needs from the Inspector of Communications will probably have to lie at a much greater distance behind his fighting columns than is pictured for the normal system of supply in our Regulations. The carrier " trains " with columns will be a part only of the whole train at the disposal of the commander of a force. The remainder will consist of light mechanical transport as well as additional corps of carriers for use in country impracticable even for light mechanical transport. The criticism levelled at the operations in East Africa by a foreign author to the effect that the supply service was the master rather than the servant of the troops must be avoided in future. The operations of 1916, 1917, and 1918 were of a very varied nature and must surely provide ample information from which to correct the faults of system which appeared.

Note on the Composition of Forces in East Africa.

In 1916 there were among the mounted troops a squadron of Indian Cavalry composed of Trans-border Pathans, a corps of East African settlers formed in 1914, a detachment of Boers from British East Africa organised as scouts, a company of mounted Infantry from the King's African Rifles composed chiefly of Somalis, and nine regiments of South Africans, chiefly Boers.

The Artillery comprised Indian mountain 10-pounder screw guns, with mule transport, and manned by Sikhs and Punjabi Mohammadans; 12-pounder field guns, with ox draught, manned by the Calcutta British Volunteer Artillery; 15-pounders, also ox drawn, but manned by Royal Garrison Artillery from Mauritius; 12-pounder naval 8-cwt. guns, drawn by light lorries and manned by volunteers from British Infantry; 5-inch howitzers, manned by men of the Royal Garrison Artillery from Cape Town, and drawn by mules driven from the limbers by Cape Boys; 4-inch naval guns (salved from the ill-fated " Pegasus ") mounted on

wheels for mechanical traction and manned by the R.N. Reserve; 12-pounder naval 18-cwt. guns, with mechanical tractors and manned by Marines; 13-pounder field guns, with horse draught, manned by South Africans; 5·4-inch howitzers, with mechanical tractors and manned by British Territorial Artillery.

There were machine gun companies manned by Anglo-Indians of the Indian Railway Volunteers and by East African settlers, and there were light and heavy armoured cars.

The Infantry comprised a British Regular battalion from the Indian Establishment, a New Army battalion, a battalion of Rhodesians, eight battalions of South Africans, a battalion of Cape Boys, ten battalions of the Indian Regular Army. In the ranks of four of the ten Indian battalions were Sikhs, Dogras, Punjabi Mohammadans and Pathans; in that of another were Rajputs, Ahirs and Hindustani Mohammadans; in the other five were Mohammadans of the eastern Punjab, of Rajputana and of Hindustan, and there were Mahrattas, Tamils, Telugus, Parayahs and Madrassi Christians. There were the equivalent of four battalions drawn from the Indian Imperial Service Troops; *i.e.*, troops maintained by certain Indian Princes; these consisted of half battalions from Rampur, Bharatpur, Gwalior, Kapurthala and Jhind, and of 1½ battalions from Kashmir. Then there were three battalions of King's African Rifles, recruited in East and Central Africa. These were expanded to 22 battalions by 1918. There were also smaller units of East African and Uganda tribes. West Africa was represented by five battalions of the West African Frontier Force, and eventually the West Indies sent two battalions.

Among the technical troops were a Pioneer battalion from Southern India, a Field Company of Indian Imperial Service troops from Faridkot, and a corps of East African Pioneers recruited from local natives and organised chiefly with cutting tools.

THE FRENCH ARMY AT WAR.

By CAPTAIN E. W. SHEPPARD, O.B.E., M.C., Royal Tank Corps.

INTRODUCTION.

IT is of interest to note that the British Army was by no means the only one among those which entered the Great War in August, 1914, to undergo considerable changes in organisation, armament, equipment and methods, as a result of the experiences of the first few months of hostilities. Both France and Germany had built up and maintained their military systems with a view mainly, if not solely, to the campaign that actually took place. Each regarded the other as the most dangerous possible enemy in any future war, and each had planned to seize the initiative at the earliest moment after its outbreak and pursue an unremitting and relentless offensive until decisive victory had been attained. The armies of both Powers were, therefore, organised and equipped for rapidity of movement, mobility and great striking power from the first; and as it was believed that financial and economic considerations must in any case preclude a long war, everything was staked on securing the first decision—which might well be the only one.

The first few weeks of fighting, as is well known, disappointed the hopes, and caused a radical alteration in the projects and methods of the General Staffs of both France and Germany. Armament, equipment and methods of command, organisation and fighting, which had seemed suitable enough for a war of movement, were found to be less well adapted to position warfare. Much had to be altogether abolished; much more needed more or less radical adaptation to fit the new conditions; and, speaking generally, it is not too much to say that the whole of the French, as of the German, military machine was thoroughly overhauled and re-cast from top to bottom in the year of comparative quiet that ensued in the West after the opening of the trench-warfare epoch in the autumn of 1914. The experiences of the great battles of 1915 and 1916 and the early part of 1917 naturally brought about yet other changes of a not less far-reaching and important nature, as did the resumption of open or semi-open warfare in 1918. It is proposed in this article to give a brief general *résumé* of this development, and to show how the French Army of November, 1918, which had been tried and proved in years of fierce and almost continuous fighting, differed from that of 1914, which had been modelled entirely on the theories and experiences of peace-time.[1]

[1] For the facts and figures in this article, the author is indebted to the following works:—Pellegrin, "La Vie d'une Armée pendant la Grande Guerre"; Mangin, "Comment finit la Guerre"; Revol, "L'Effort Militaire des Alliés" Mermeix, "Le Commandement Unique," and various articles in periodicals.

I.—The French Army in August, 1914.

(a) *Organisation and Armament.*

The peace-time strength of the French Army was 817,000 French and 67,000 native troops, in all 884,000 men, and these numbers were increased on mobilisation to 3,683,000. Of these, 2,689,000 were available for service in the field or in the fortified places of the Eastern and Northern frontiers; 157,000 were left in North Africa, and 837,000 were left in the interior of France (depôts, etc.).

The Army was organised into 22 Army Corps (including a Colonial Corps); 10 cavalry divisions; 21 reserve infantry divisions, and a number of Territorial divisions. These formations were allotted to Armies, of which there were five, as under :—

Army.	Formations comprising it.		Strength (Approx.)
First (Dubail) -	5 Army Corps 2 Cavalry Divisions 1 Active Division 3 Reserve Divisions 1 Alpine Group	15 Infantry and 2 Cavalry Divisions	256,000
Second - (de Castelnau)	5 Army Corps 2 Cavalry Divisions 3 Reserve Divisions 1 Colonial Brigade	14½ Infantry and 2 Cavalry Divisions	200,000
Third (Ruffey) -	3 Army Corps 1 Cavalry Division 3 Reserve Divisions	10 Infantry Divisions and 1 Cavalry Division	168,000
Fourth (de Langle de Cary).	3 Army Corps 1 Cavalry Division	7 Infantry Divisions and 1 Cavalry Division	193,000
Fifth (Lanrezac)	5 Army Corps 1 Cavalry Division 5 Reserve Divisions	16 Infantry Divisions and 1 Cavalry Division	254,000
Cavalry (Sordet)	3 Cavalry Divisions.		—
	21 Army Corps 10 Cavalry Divisions 14 Reserve Divisions	62½ Infantry and 10 Cavalry Divisions	1,071,000 men

The generals who were to command these armies in war had been appointed in time of peace; and their staffs had also been constituted

in cadre form, and had been assembled for staff rides and schemes at intervals during the two years before the war.

The artillery in 1914 comprised 635 field batteries, armed with the famous 75-mm. field guns, of which there were 4,780 available, and 24 medium batteries, armed with the 155 mm. guns, of which the Army possessed 104.

In addition to this artillery, the French possessed 68 heavy batteries (308 guns of various calibres from 120-mm. to 155-mm.).

In all there were, including horse and mountain batteries, 952 batteries (795 light and 157 heavy). Their allotment of ammunition was 1,390 rounds per field-gun; this was, of course, to be supplemented by the output of the artillery factories, which was estimated at 14,000 rounds per diem for the 75-mm. and 465 for the 155-mm. gun.

As regards firearms, the Army had at the opening of the campaign 3,480,000 rifles and carbines, while the daily output of cartridges from the War Department factories was estimated at 2,600,000. The total of machine-guns was in August, 1914, only 5,100, of which more than half were allotted to the garrisons of the various strong places; deliveries from the factories were to be at the rate of 40 new machine-guns per month.

The actual organisation of the larger formations was as follows :—

The *Infantry Division* comprised 2 brigades, each of 4 infantry regiments; 1 cavalry squadron; 9 batteries of artillery (organised in 3 groups); an engineer company, and various services: in all, some 15,000 men.

The *Army Corps* consisted of 2 divisions, as above, and in addition a cavalry brigade; a reserve infantry brigade (4 battalions); 12 batteries of Corps artillery; 2 engineer companies, and various services, in all, some 40,000 men.

There were in the Army 217 regiments of infantry, 92 of cavalry, 26 engineer battalions and 7 aircraft companies. The Colonial Army is included in these figures.

(b) *Command and Administration.*

The staff of the larger French formations, such as the Army Corps and the Army, was divided into two groups: the first group, comprising the Commander and what corresponds to our General Staff; the second, consisting of the administrative staffs and subordinate services. The staff of an Army in August, 1914, was far less numerous than it later became numbering as a rule some 550, 50 officers and 500 other ranks, with 130 horses and 40 cars. Let us take an Army staff as typical of the whole and study its composition and work in the field.

(1) The first group, the General Staff, was subdivided into three branches. The 1st Bureau dealt with all questions of organisation, effectives, *personnel*, reinforcements of men and horses, replacement of material, and discipline, besides the distribution of munitions and

supplies—no light work for the five officers composing it. The 2nd Bureau was concerned mainly with intelligence and information, but relations with the Civil Authorities and counter-espionage also came within its province. The *personnel* of this branch numbered nine, exclusive of three officers specialising in aviation and intelligence gathered by aircraft. To the 3rd Bureau, which had seven officers (including a Director of Military Telegraphy), were allotted all operations and *liaison* questions. Finally, the Courier Section (three officers) dealt with all documents received or despatched by the General Staff.

(2) The second group was under the command of the Director of L. of C. and Services, who was responsible for the execution of the orders of the General Staff relative to supplies of all kinds, and also for the disposal of all casualties. He had under him some 20 officers, who dealt with all such matters as artillery, engineers, telegraphs, mechanical transport, aviation, supply, hygiene and sanitation, veterinary and medical services and posts. To this group was also attached a Railway Regulating Commission, responsible to the Director of Railways at Grand Headquarters (G.Q.G.), but working in close *liaison* with the Director of L. of C. and Services, and supplying and controlling all rail transport called for by him for any purpose.

The *System of Supply* in rear of the Armies was, briefly, as follows: The Director of L. of C. and Services, on receiving demands or requisitions from the various corps or other formations, if he could not satisfy them from the resources at his disposal, sent them on to the Director of the Rear Zone, a high officer of the General Staff at G.Q.G., who co-ordinated all demands or requisitions received from the various Armies and, according to their nature, supplied them either from the magazine stations allotted to the Armies (food, forage, etc.), or from the general reserves of clothing, munitions and engineer stores. The task of transporting by rail the material required fell to the Railway Regulating Commission with the Army concerned; from railhead onwards, transport was arranged by the Army Director of L. of C. and Services.

Daily supplies (rations, etc.) were delivered automatically to the Armies without preliminary requisition, their distribution among the various supply trains (one per division) and their despatch being the function of the Railway Regulating Commission. Bread was usually made at the Army bakeries, situated in close proximity to the magazine stations; fresh meat was distributed from the Army *abattoirs*, and made up by preserved or frozen meat where deficient; forage was usually bought or requisitioned locally.

Ammunition Supply was the task of the Artillery Service. The available supply was divided into three *échelons:* the first, carried in the Army Artillery Park; the second at the regulating stations; the third at the arsenal allotted to the Army.

Engineer Stores were drawn in the first place from the Engineer

Park and, secondly, from the first reserve of Engineer Stores at the Magazine Stations.

Mechanical Transport, whether for the carriage of *personnel*, material or supplies, or for medical purposes, was centralised under the Chief of M.T. Services, who also had under his orders the Army M.T. Park and M.T. Repair Park.

Aircraft Supplies were effected from the first reserves of petrol, oil, material, etc., stored at the Regulating Stations.

The *Medical Service* comprised Army ambulances and hospital sections, stationary ambulances in the L. of C. area, and permanent and temporary base hospitals. Wounded were evacuated from the clearing hospitals situated close to the railway, preferably at the Regulating Station, by permanent, semi-permanent, or improvised hospital trains to the base hospitals.

The *Veterinary Service* maintained depôts in the L. of C. area for sick and wounded horses, and was also responsible for the supply of remounts to the Army.

Such was the French Army at the outbreak of the Great War. We shall now pass on to see the modifications and changes which resulted from the practical experience acquired during that war, and what a very different military machine was evolved by the end of 1918.

II.—The Growth of the Army, 1914–1918.

(a) *Personnel, Casualties and Recruitment.*

The first result of the changed conditions of fighting, which revealed themselves after the stabilisation of the fronts in the West, was a great increase in the numerical strength of the French Armies.

This growth continued steadily up to the spring of 1917. At the beginning of 1915, when trench warfare may be said to have fairly set in, the total forces available, despite the heavy losses of the first few months, estimated at 800,000 at least, had risen to 2,600,000, and the number of divisions to 92; and there were still ample resources in manpower to be drawn on. But the year proved a heavy one for the French Army, which suffered serious losses without having very much to show for them; the monthly casualties up till June ran to over 130,000, and those of the autumn offensive in Champagne to 180,000. In addition, the pressing call for increasing supplies of munitions and material necessitated the withdrawal of large numbers of fighting men for industrial purposes; by July, 1915, 122,000 had already been so withdrawn, and by the end of the year, 339,000. Finally, at the end of the year, a force of some 100,000 men was dispatched to Salonika. None the less, the Army continued to increase in size; by the beginning of 1916 it numbered 2,860,000 men, of whom no fewer than 2,264,000 had been recruited since 1st January, 1915.

The losses in 1916, first at Verdun, then on the Somme, proved even greater than those of the previous year, amounting to 420,000 and 195,000 respectively; all this quite apart from the regular toll of trench warfare casualties, which averaged 70,000 to 90,000 per month. Yet even these fearful losses could only slacken and not put an end to the constant growth of the field forces: 1,260,000 men were sent to replace casualties in the course of the year; many of the wounded quickly recovered and returned to the Armies, and greater use was made of the native population of the French Colonies. The number of divisions was increased by these and other means to 95, and the effectives of the Army to 2,900,000, by the end of 1916.

The culminating point was reached in April, 1917, just before the Nivelle offensive, when the French Army numbered 2,965,000 men. From now on, its strength was rapidly and alarmingly depleted, not only by battlefield casualties, but also by the increasing withdrawal of agricultural and industrial workers. These withdrawals, by the middle of the summer, already totalled close on 700,000 men; very little less than the full number of recruits sent to join the Armies during the whole year. To these must be added some 450,000 casualties. It will readily be realised that, though the number of French divisions had been increased to 97, the effectives had sunk to 2,660,000 by January, 1918.

During the winter of 1917–1918 further great efforts were made to bring the Armies once again to full strength; and they were so far successful that, by the opening of the German offensive in March, the troops at the front once more numbered close on 2,900,000, with some 575,000 in the depôts and training camps available for service in a few months' time. The Army now numbered 102 divisions, at which figure it remained till the Armistice. The defensive battles of the spring and summer, however, cost over 400,000 casualties, and the offensive fighting from July to November another 600,000, so that, despite the dispatch of considerable reinforcements—close on 1,000,000 up to the end of the year—the strength of the Army on 11th November, 1918, had fallen to little over 2,600,000 men. As against this decline, however, it must be remembered that there were still available large numbers of recruits in the interior of the country—over 400,000 in all, apart from convalescents, sick and wounded.

In all, during the five years of war, France had mobilised and embodied 8,410,000 men, inclusive of 475,000 natives from North Africa and from her Colonies, and had lost in killed, 1,121,000; wounded, 2,800,000; and missing and prisoners, 769,000—4,690,000 men in all.

(b) *Armament.*

The second result of the new warfare was to increase in immeasurable proportions the demands of the armies for guns, munitions and material of every sort. The introduction of new methods and weapons, such as gas, tanks, etc., necessitated an additional industrial effort as an

essential preliminary and accompaniment to their full utilisation. We have already seen that, as early as the spring of 1915, considerable numbers of enlisted men had to be withdrawn from the Army to the factories; the total so withdrawn amounted to some 559,000 at its maximum in July, 1917.

The figures of output of war material reached during the course of the war an astonishingly high level. We have already seen the estimates made by the military authorities before the war, as regards the supplies of rifles, guns, munitions and stores required on the outbreak of hostilities; these, of course, proved in France, as elsewhere, completely inadequate. Speeding-up and intensification of labour had to be carried out at fever heat, and with a complete disregard for expenditure, if the Army were not to be left disarmed in the presence of the enemy.

(a) *Field Artillery.*—Early in September, 1914, the General-in-Chief informed the War Minister that the needs of the Army in field-gun ammunition alone were estimated at 40,000 rounds per day, and three months later this figure had doubled. So effectively was this huge task tackled that, by the end of the year, 56,000 rounds per diem were being turned out, and a month later, over 60,000. Creditable as this was, it was nothing to what was to follow later, when the average daily figure of deliveries of the 75-mm. shell alone attained the figure of 220,000 rounds per day. At the same time, the manufacture and repair of field guns was also taken in hand on a large scale; this was a longer process, and it was not till halfway through 1915 that deliveries could be made at the average rate asked for by the military authorities, of one piece per day. From this time forward, the increase was rapid—the high-water mark of 15 pieces a day being attained by 1916. During the whole course of the war, the French factories turned out over 17,000 new ·75-mm. field guns, and over 208,000,000 rounds of field-gun ammunition.

(b) *Medium and Heavy Artillery.*—By May, 1915, the 412 medium and heavy guns with the Army at the outbreak of war had been reinforced by some 850 of various calibres; while the manufacture of howitzers and trench mortars had also been taken in hand, and some 200 of these pieces were already in action. From this time forward, the number of guns manufactured increased almost in the same proportion as the variety of calibres employed, which ranged from 120 mm. up to 400 mm. By 11th November, 1918, there had been supplied to the armies 6,700 heavy and medium guns and over 320,000,000 rounds of ammunition for them.

(c) *Small Arms.*—From the first few months of the war, the Army establishments had been able to undertake the repair of some 3,500 rifles per day, but the need for larger supplies became so pressing that recourse had to be had to the stocks of older models, for the equipment of units serving behind the front line. These had to be adapted to the cartridge then in use, and by October, 1915, 150,000 of these re-modelled rifles had been issued. The manufacture of new rifles had now been taken

seriously in hand; a maximum daily production figure of 3,800 was quickly reached, and it is estimated that during the whole course of the war, over 2,300,000 were turned out. The corresponding figures for ammunition were: maximum daily production, 7,000,000; total during the war, 63,000,000.

(d) *Machine Guns.*—The equipping of the Army, which at the opening of the war possessed very few machine-guns, with this weapon, which had so clearly proved its power and value in the opening battles, was one of the first matters to be put in hand after the stabilisation of the fronts. The figures of manufacture of the 1907 model rapidly rose from 40 per month to over 2,100 by the end of 1916.

Large orders were also placed with the Hotchkiss firm for their machine-gun models, which by the same date were being produced at the rate of 1,500 per month. By this time, too, the new automatic rifle had been issued to all first-line units on a lavish scale, and the figures of establishment had been practically completed.

The totals of machine-guns supplied to the French Army between 1914 and 1918 were: 1907 model, 40,000; Hotchkiss, 47,000; automatic rifles, 225,000.

(e) *Tanks.*—Between the end of 1915, when the French first took in hand the production of tanks, and the close of the war, 5,300 of these machines were manufactured and supplied to the armies.

(f) *Gas.*—49,000 tons of poison gas were manufactured during the period of the war.

(g) *Mechanical Transport.*—The production of motor vehicles of all kinds rose from 40 to 4,200 per month between 1914 and 1918, the total production figure for the war being 90,000.

The above figures cover only the main phases of the stupendous industrial output of France during the Great War. To them must be added those of the many and various varieties of war material which cannot be classified under the above, besides those of plant, raw material, gunpowder, etc., without which no manufacture at all could have taken place.

(c) *Organisation.*

The French Army commenced the war, as we have seen, with 5 armies, comprising 22 Army Corps and 21 additional reserve divisions. By the spring of 1915, five new armies had been formed in France alone, apart from those which were dispatched during that year to the Dardanelles and to Salonika; but not all of these had an unbroken existence right up to the end of the war: the Ninth, in particular, was dissolved before the end of 1914 and only reconstituted for a few weeks in 1918; while the Eighth suffered a break in continuity between the spring of 1915 and the beginning of 1917.

Meanwhile, there was established in January, 1915, a new *échelon* of command between the Grand Quartier Général and the armies known

as the Group of Armies. There existed for the greater part of the war three of these Groups on the Western Front, known respectively as the Northern Group (G.A.N.), the Central Group (G.A.C.) and the Eastern Group (G.A.E.). These groups, again, were liable to be dissolved and reconstituted according to the needs of the moment; thus the G.A.N. ceased to exist after May, 1918, its place being taken by the Reserve Group (G.A.R.); the G.A.C. was suppressed in November, 1917, and reconstituted in March, 1918. Only the G.A.E. maintained an unbroken existence for four years. To these four mentioned above must be added the Group of Armies of the Orient (the Salonika force), and the Group of Armies sent to Italy in November, 1917; and the Group constituted in 1917 for the abortive break through on the Aisne in April, 1917.

Between 1914 and 1918, the number of Army Corps in the West had also been greatly increased. To the 21 original Corps were added 10 others, numbered from XXX. to XXXIX., and also a II. Colonial Corps and 2 new Cavalry Corps. During the period of position warfare, these corps were often reduced simply to staffs and cadres as necessity arose.

In addition to these more or less permanent formations, there were constituted at various times, usually to meet emergencies or to fulfil special duties, a number of temporary bodies known as Groups of Reserve Divisions, Army Detachments and Groups of Divisions. The first-named, introduced at the opening of hostilities, were abolished entirely by the beginning of 1915 and were never revived. The Army Detachments consisted of bodies of troops, independent as regards operations, but dependent for their supply and administrative services on the Army from which they took their origin; they were usually transformed in due course into Armies. The Group of Divisions was avowedly a temporary formation constituted for a special purpose, and dissolved when that purpose had been accomplished.

Simultaneously with the institution of these new formations, the original ones were undergoing adaptation to the circumstances of position warfare The Division, which tended in the French—as in most Armies—to become the integral fighting formation, was accordingly largely remodelled so as to make it more self-contained and independent. Additional engineer *personnel* and material were allotted to it, as also a number of the ordnance sections with their shops and tools, which had formerly been part of the Corps Park. The infantry, however, had before very long to be reduced considerably, owing to the shortage of man-power. In the summer of 1916, half the divisions in the Army were cut down from four to three regiments, *i.e.*, from twelve to nine battalions. This involved the disappearance of one brigade, with its commander; and the resulting organisation by which the remaining three regiments were placed under one general, entitled the " Infantry Commander," subsists in the French peace-time Army of the present day. It must be remembered, however, that the infantry regiment of

the later stages of the war, armed as it was with machine-guns, automatic rifles, 37-mm. guns, Stokes mortars, revolver-cannons, grenades and pistols, was a far more formidable engine of war than its predecessor of 1914, which possessed only its rifles and bayonets and a few machine-guns.

(d) *Command.*

The general organisation of the Staff, which had satisfactorily stood the test of experience, remained unchanged throughout the war; but it had, of course, to be modified in detail, and also largely amplified and extended to cope with the new conditions of position warfare and to handle the new weapons being brought into use. We will cast a glance at the same Army Staff as we saw in 1914, and see how it had been transformed by some years of war.

The three branches of the General Staff still exist, though their work, particularly in the case of the 2nd Bureau (Intelligence) and the *personnel* necessary to cope with it, has been much increased, and that of the 1st Bureau (Organisation) remodelled and somewhat reduced. The new 4th Bureau (Supply and Transport) has taken over from the 1st all work connected with material, munitions and supplies, leaving it free to deal with those of organisation, effectives and *personnel*. But, in addition to the original three branches, there have now come into being a number of new ones with specialised formations. A *Commander of Artillery* with a large staff has been appointed to co-ordinate the action of all the batteries in the Army area; his duties include, besides the command of the batteries specially allotted to the Army by the Grand Quartier Général, the handling of all matters dealing with anti-aircraft defences, trench mortars and anti-tank defence, and with artillery intelligence in all its branches. There has also come into existence an *Engineer Commander*, who deals not only with the construction and supply of material for defences and shelters of all kinds, but also with the repair and upkeep of roads, water supply, electric services, hutting and camps and tunnelling work. The scope of work of the *Medical Services* has been beyond measure increased, and the resources at their disposal correspondingly amplified and brought up to date. The same may be said of the *Signal Service*, which now handles, in addition to air lines and cables, wireless and listening sets. The number of vehicles at the disposal of the *M.T. Service* has been greatly multiplied, but not unduly so, considering the great extension of its duties. Finally, the *Aviation Service*, from an auxiliary to the command, has become a separate and distinct organ, with a numerous specialist *personnel*—in fact, for all practical purposes, a distinct arm of the Service.

It is proposed now to undertake a brief review of the duties of the various branches of the General Staff.

The *1st Bureau* (Organisation) corresponded broadly to our Adjutant-General's Branch, and had much the same functions. It drew up the order of battle of the Army, modifying it as need arose by the creation of new formations, the dissolution of existing ones, or

by changing their composition. It settled establishments and drew up casualty returns, and demands for reinforcements and remounts. It handled questions of promotion, decorations, mentions in despatches, discipline and transfers. It regulated leave, dealt with prisoners of war, and was in charge of relations with the civil authorities.

The *2nd Bureau* (Intelligence) was concerned with information of all natures about the enemy; its collection, classification and publication. The sources drawn on and the methods used were, of course, many and various: prisoners' statements; documents; observers' reports from the ground and from the air; aeroplane photographs; listening sets, both subterranean and wireless; agents' reports, and captured material. The Bureau worked in close touch with the Artillery Intelligence sections, the Aviation Service and the Survey, Cartographical and Topographical Sections. The work of the 2nd Bureau throughout the war attained a high standard of uniform excellence.

The *3rd Bureau* (Operations) was responsible for the issue of orders for all operations and movements, for the drawing up of reports and for special reconnaissance work. The great multiplication of weapons, the more extensive use of artillery, the increase in power and efficiency of the aerial arm, the introduction of gas and tanks, greatly increased the complexity and difficulty of the duties of the 3rd Bureau. Among the more important of the special functions which fell to it during the period of trench warfare may be mentioned the drawing up and co-ordination of schemes of defence and of systems of relief for troops in the line; the supervision of training of specialists and officers in instructional schools; and the working out of plans for an eventual offensive.

The post of *Army Artillery Commander,* which had not been in existence for a number of years prior to the war, was revived in the autumn of 1914, owing to the great increase in the number of heavy batteries allotted to the Army, and the complexity of the question of ammunition supply, due to the variety of calibres employed. This officer's importance was greatly enhanced in course of time as the *rôle* of artillery increased and diversified, and by 1917 his functions and powers had been more or less clearly and finally defined. As technical adviser in artillery matters of the Army Commander, he was responsible for the command and administration of the Artillery General Reserve, which included all batteries with the Army not permanently allotted to Corps or Divisions; for the general co-ordination of all artillery action within the Army area; and also, in conjunction with the 4th Bureau, for the supply and distribution of ammunition. He had under his orders flash spotting and sound-ranging sections, the artillery parks and artillery repair park, and all anti-aircraft and anti-tank guns. (Anti-aircraft artillery was in 1918 transferred to the Air Service.) He had a staff of some twenty officers to assist him, and was always in close touch with the General Staff; *liaison* between the Artillery Information Section and the 2nd Bureau was especially close and constant.

The *Army Engineer Commander*, whose duties included the supply of tools, materials and stores to all units in the Army area, had under his orders all the engineer, mining and bridging companies, as also the Army Engineer Park, from which was furnished supplies for the local dumps in the various sections. He was responsible also for the tracing and construction of rear lines of defence, for the building and upkeep of roads and bridges and tracks in position warfare, or during an advance, and for their destruction in case of a retreat. In these tasks he was assisted by an engineer-in-chief from the Civil Department of Roads and Bridges, and had at his disposal a large specialist *personnel*.

The services of other experts were available in assuring the supply of pure water, the institution and maintenance of the electric light services, and the provision of hutments, standing camps and cantonments—all of which matters fell within the province of the Army Engineer Commander.

The *Aviation Service* numbered at the commencement of the war 25 squadrons, 158 machines in all, and by the Armistice had grown to 258 squadrons with 3,432 machines. It had been constituted a separate Directorate as early as 1913, but it was not till 1916 that a Commander of Army Aviation, responsible only to the Army Commander, was appointed in each army. He had charge of all aircraft, whether aeroplanes or balloons; acted as technical adviser in all aerial matters; supervised and co-ordinated the work of the Aircraft Commanders with the Army Corps; directed the Aircraft Intelligence Service, and carried out the training of air force *personnel*, of whom he had some 12,000 under his orders. Directly under him were the Army aircraft establishments (aviation park, hangar construction sections, and aircraft repair sections), and the Army aerial squadrons. He acted also as the central co-ordinating authority for the various Corps squadrons, as regards organisation, discipline and supply of *personnel* and material. All technical work was carried out by the Army aviation park, supplied by the magazine section; repairs by the workshops.

In close co-operation with both the 2nd Bureau and the Aviation Service worked the *Map-Making Section*, which was formed at the end of 1914, for the purpose of providing in great quantities the large-scale maps necessitated by the advent of position warfare. The *personnel* for these sections was drawn from the Army Survey Service; the maps produced were based partly on the existing small-scale sheets, partly on special surveys, partly on aerial photographs, and were widely distributed to all arms on a lavish scale. The task of keeping these large-scale maps up to date and issuing them in sufficient numbers and in good time for the purposes for which they were required, was a colossal and often a thankless one; some of the sheets underwent over forty revisions, and in all, between August, 1914, and November, 1918, no less than 13,000,000 copies of the $\frac{1}{20000}$, $\frac{1}{10000}$, and $\frac{1}{5000}$ maps were printed.

(e) *Administration.*

As regards administration, the system in vogue at the opening of hostilities, whereby all questions of this order were relegated to a special organisation, the Directorate of L. of C. and Supplies, was found not to work well in practice. This organisation, situated far behind the front, tended to lose touch with the General Staff and with the troops, and with the general situation; the General Staff often failed, in making their plans, to give adequate weight to administrative considerations, and the Directorate of L. of C. and Services as frequently was unable to improvise measures in time to meet the demands upon it. In consequence, the latter organisation was done away with early in 1917; in its place was set up, in rear of each group of armies, an L. of C. Zone, under one director, who dealt with all matters of command and administration within his sphere and with each army; the 4th Bureau to deal with all questions of transport and supply, responsible directly to the Army Commander.

This *4th Bureau*, to which were attached the Army Artillery and Engineer Parks, and the Mechanical Transport Service, co-ordinated, and forwarded or satisfied, supply demands of all kinds, and disposed of all means of transport in the Army area. It fixed, in consultation with the Railway Regulating Commission, railheads for supply and ammunition, and regulated all transport, whether by narrow-gauge railway, lorry or horse transport, from these railheads forward to the troops. It was subdivided into three sections, dealing respectively with engineer stores, supply and sanitation, artillery and transport and communications. Supplies and material were drawn in accordance with circumstances, either from the stocks in the Army area; from the L. of C. area of the Group of Armies by requisition on the Director of that area; from the magazines at the Regulating Station, by requisition on the Regulating Commission; or from the interior by requisition on the Director of the Rear Zone at G.Q.G. The duties and responsibilities of the 4th Bureau before and during an offensive were, of course, increased far beyond the normal requirements of position warfare. In the period of preparation, careful preliminary organisation and full utilisation of all means of communication were necessary, to ensure the rapid assembly and transport to the forward zone, of all the supplies and material allotted to the Army; while, during the course of the battle itself, its main duty was the extension of communications forward to the advancing troops, and the exploitation of the means of transport, in accordance with the general situation and of the *terrain*.

The *Signal Service* in 1914 was poorly equipped for the work it had to do, and the system of organisation proved unsuited to the exigencies of war. Immediately after the Marne, the supply of telephonic material was largely increased; wireless sets were allotted to aircraft, and others were mounted on special lorries equipped as mobile stations, and signalling lamps and searchlights came into use. The control of all signal communication was centralised both at G.Q.G. and at Army

headquarters. In 1916, flares and panels were first issued to troops, for use in notifying aircraft of their position. The Army telegraphic service, subdivided into six sections, had at its disposal a large park, and took in hand all supply and repair work in its own area; and each Corps and Division had its own telegraphic sections. The Army lines were divided into two systems, for command and for fire purposes; the former functioning between Army headquarters up to infantry regiments and artillery groups; the latter from groups, batteries, etc., forward to observation posts and the front line. Corps and Divisions worked out their lines on the same principles, which also held good for wireless. Each Army Corps and Division had its own circuit, the Army communicating rearwards with Group of Armies or G.Q.G., forwards to Corps, and on either flank with its neighbouring Armies.

Mechanical Transport had been carefully organised in peace-time, and arrangements made for the full utilisation of civil resources. During the war, the available machines were distributed in the following categories:—

(1) Units of exploitation, comprising sections for the transport of material, *personnel*, wounded, fresh meat, and road material;

(2) Repair units, comprising Army Parks and Repair Parks, the former undertaking the supply of spare parts and minor repairs, and possessing a reserve of vehicles for replacement of casualties, while the latter was capable of carrying out large repair jobs for which the Army Parks had not the plant or the facilities;

(3) Supply units, whether of *personnel*, material, or spare parts, comprising the M.T. Organisation Parks at Versailles and Lyons, the M.T. School of Instruction and Central M.T. Magazine at Paris.

The control of all M.T. resources was exercised by a Director of M.T. at G.Q.G., responsible to the Director of the Rear Zone, with sub-directors in each Group of Armies and Chiefs of M.T. Services with the Armies. This last-named officer directly controlled all the M.T. resources of the Army, and exercised supervision of those allotted to Corps and Divisions; he was also responsible for the supply of petrol, oil and grease to all M.T. formations in his area.

The *Medical Services* of an Army were in 1917 placed under a Director, responsible directly to the Army Commander, and in close touch with the General Staff. He had by this time far more ample and adequate resources at his disposal than in the early days of the war. Each Corps had now 8 ambulances, 6 hospital sections, and 3 groups of stretcher-bearers; while the Army possessed, in addition, 1 evacuation hospital, 8 ambulances, 6 hospital sections, together with reserves of drugs, sanitary material and hospital-train *personnel*, which were held at the Regulating Stations. Later tendencies made for an even greater concentration of the available resources in the hands of the Army

Director, who also had under him various specialist and laboratory sections.

Supply, Clothing, Equipment and Pay were dealt with by the *Intendance Service;* with each Army was an Intendant-Général whose business it was to supervise the work of supply of food and forage in conjunction with the 4th Bureau. He had also to receive and satisfy all requisitions for clothing and equipment; to deal with all matters of pay, and to superintend the working of the co-operative stores, or canteens which, first set up by the initiative of the commanders of individual units or formations, soon became general throughout the Army, and secured official recognition and encouragement by reason of the great benefits conferred by them on all ranks.

Conclusion.

It is hoped that the above sketch of the remodelling of the French Army during the Great War may be of interest, if only for purposes of comparison with that undergone by our own under similar circumstances. Every war brings with it a crop of new phenomena and unforeseen conditions, with corresponding calls on the spirit of initiative, broad-mindedness and adaptability, that alone can enable these novel circumstances to be faced and turned to profit. It will be recognised that in this, as in most other of the military virtues, the French Army and its commanders proved themselves fully worthy of the high traditions of their past history and of the national genius of their country and its people.

CILICIA AND THE BAGHDAD RAILWAY.

A LECTURE DELIVERED AT THE STAFF COLLEGE, QUETTA.

By MAJOR T. J. PONTING, 4/8th P.W.O. Punjab Regiment.

INTRODUCTION.

THIS article is an attempt to describe the Baghdad Railway, with more especial reference to the historic highway along which it runs in Cilicia. Without going so far as to say that the Baghdad Railway was one of the causes of the Great War, there is, I think, very little doubt that it did much to produce the atmosphere necessary for the outbreak of a European war. And here we see history repeating herself in modern form, as the great highway, which has been a bone of contention well-nigh since the dawn of history, has merely changed its name.

Cilicia.—Cilicia is a Turkish province which is the most southerly portion of Anatolia from the Taurus Mountains down to the Gulf of Alexandretta. Its boundary on the north is the Taurus range, and on the east the Amanus range. These are natural boundaries, which have known no change for centuries, and it is through these ranges that the Baghdad Railway now runs. Both the Taurus and the Amanus rise to over 10,000 feet and, where not touched by the railway, are beautifully wooded.

Where the railway runs forests have been ruthlessly cut down and no attempt at re-afforestation has yet been made.

Taurus Mountains.—The Taurus mountains have been likened in appearance to the Pyrenees. They consist of a rugged mass rising almost sheer out of the plain of Cilicia.

Cilician Plain.—The Cilician plain, from the coast to the foot of the Taurus and Amanus ranges, is very fertile, and, given irrigation, could produce far more than at present. A German irrigation scheme existed before the War which was never completed.

Harbours.—There are no ports or harbours worthy of the name on the Cilician coast. The actual landing-place used by our Army of Occupation was Mersina. This is an open roadstead, subject to severe storms, and only has one very small railway pier, which is rapidly becoming useless owing to siltage. Only four barges can use the pier at one time and there are no arrangements for landing animals, which have to be swum ashore. There is a scheme to make a harbour at Ayas, which, should it get into the right hands, has great possibilities.

Roads.—Cilicia is practically roadless, and in the winter, with the exception of the road through the Cilician Gates, which was metalled by the Germans, all other roads become water-logged and useless.

Inhabitants.—The inhabitants are mainly Turks, Armenians and Greeks, the villages of the latter being usually distinct from those of the Turk. In the towns there is the usual Near East medley of races. Nomadic tribes, mostly Kurd and Turcoman, traverse the mountain ranges during the spring and autumn, wintering in the plains and spending the summer in the hills. The flow of these caravans was a very great indication of the state of affairs in Anatolia, and greatly increased at the time of the rise of Mustapha Kemal.

Historical.—It is impossible within the limits of this article to give anything like a history of Cilicia and the great highway which traverses it. A brief outline will, however, show the part they have played in ancient history, their influence in setting the stage for the late war, and their possible significance in the future. The trend from West to East did not originate with Germany. It began with Greece (from which we trace the name Anatolia, from the Greek verb ***anatillo***, to rise, *i.e.*, rising of the sun = equal east.)

It was taken up by ancient Rome and has actuated every Western Power with ambitions to extend its commerce and sphere of influence, right down to the present day.

The great highway through Asia Minor, from Constantinople to Baghdad, has from the most ancient times determined the fate of the Near East. Its *rôle* in the distant past has ever been to threaten the existence of civilisations and Powers which arose in the valleys of the Nile and the Euphrates, and in the intervening lands of Palestine and Arabia. Hebrew prophets announced the doom of the world through the coming of nations from the North, meaning Asia Minor.

Cyrus and Alexander began their conquest of the old-time world by first securing a grasp on Asia Minor, and, with that in their hands, they had no difficulty in regard to Babylonia, Palestine, and Egypt. The Romans maintained their grasp on the East as long as they held the routes through the mountain ranges of central Asia Minor. Islam failed in its world-conquest because it could not hold this wild region in check, whilst along this route were fought some of the decisive battles of the Crusades. The Turkish Empire was founded with the conquest of Constantinople in 1453, Turkey then obtaining control of this main highway from her capital to Baghdad. This conquest by Turkey erected a barrier shutting off Christian Europe from access to the East, and this resulted in Christopher Columbus finding the new route to India in 1492.

Prior to the opening of the Suez Canal the land-route still maintained its original importance. Then came the plan to construct the Baghdad railway. This marks the commencement of the decline of the Turkish Empire.

Baghdad Railway.—The project of the Baghdad Railway was by no means German in its origin.

1831.—The first proposal was made as far back as 1831 by a young British officer called Chesney. Nothing came of this, however.

1888.—In 1888 Germany was the first to obtain a concession from Turkey to build a railway, and the original plans were that the railway should run through Angora, Sivas, Diabekr, Mardine and Mosul to Baghdad. The Russians stepped in here and vetoed this. Russia about this period had plans of her own in the East and managed to extract an agreement from Turkey for the construction of railways in northern Asia Minor. This concession she never used, and finally transferred her rights to the French. Germany, however, was forced to select another route. The concession obtained by Germany in 1888 was to build a line from Constantinople to Angora, about 360 miles. This was a purely German enterprise, and the little British capital in it at the start was soon bought out.

1893.—In 1893 a further concession was obtained by Germany for the extension of the line from Angora to Konia, which was completed in 1896, the line branching off the Constantinople line at Eshkishehr.

1898.—In 1898 the German Emperor visited the Sultan of Turkey, and eventually extracted from him the concession for the railway, as it now stands, along the great highway used by conquerors of the past. A German cruiser was sent to the Persian Gulf to examine conditions for an outlet for this railway.

1899.—The scheme was announced in 1899 (November), but it was not until January, 1902, that the Sultan formally approved the convention.

It is necessary here to pause and look at the other side of the picture, the Persian Gulf. British influence has reigned supreme in the Gulf for nearly 300 years, but the last 15–20 years preceding the War there were several serious attempts by other Powers to obtain a foothold, with a view to threatening India. In 1898 France tried to obtain a coaling station at Bunder Jisseh, just outside Muscat. A treaty made between the Sultan of Muscat and France was only cancelled by the threatening attitude of a British cruiser towards the Sultan's Palace, which is situated on a high cliff overlooking Muscat harbour. In 1900 Russia, taking advantage of the South African War, tried to obtain a coaling station at Bunder Abbas with a view to a terminus of the proposed railway across Persia which she was then building. Again the British Navy spoilt the plan. Russia made several other attempts, which all met in the end with failure.

The most persistent Power was, of course, Germany. In 1897 she established a Vice-Consulate at Bushire, although it is believed that there was at the time only one German subject in the Gulf. In 1899 the German cruiser " Arcona " paid a visit to the Gulf ports. This was

the very cruiser which we have seen above had been sent to find an outlet for the railway. In 1900 a German mission, headed by Herr Stemrich, a protagonist of the railway, who later served in the German Foreign Office, arrived at Koweit by the Overland Route. The object of this mission was to obtain a concession from the Sheikh of Koweit for a railway terminus, and the selected spot was 20 square miles of territory at the head of the Bay of Koweit. In 1899, however, Lord Curzon, then Viceroy of India, had forestalled such an enterprise by means of a treaty with the Sheikh that he would lease no territory to any other Power but Great Britain, and, as the Sheikh was already on bad terms with the Turks, he had no difficulty in refusing. Various other attempts failed also, and so Germany turned to Turkey, who tried to browbeat the Sheikh of Koweit to acknowledge the suzerainty of the Sultan. This also failed.

It has been argued that a foreign Power in the Gulf could have no possible influence on our hold on India. If other Powers who, at the time they made attempts to get a foothold in the Gulf were hostile to us and had designs on our Eastern Empire, thought that they were going to benefit by such a foothold, there must be something against such an argument.

Broadly speaking there are three main reasons :—

(1) The Gulf is the terminus of the great land route from west to east.

(2) The establishment of a fortified harbour within striking distance of our main route to India and Australia is obviously undesirable.

(3) The mere presence of any other Power in the Gulf would give to India that disturbing atmosphere which it is ever ready to absorb, namely, that British Power in the East was threatened, and therefore British rule need no longer be considered a permanency. Well-organised propaganda would probably do the rest.

Construction of the Railway.—The Anatolian Railway Company, which had been extended to the Konia branch, found the new concession obtained by the Kaiser beyond its powers. In 1903, therefore, a new convention was made by which a new company, " Société du Chemin de Fer de Baghdad," took the place of the Anatolian Railway Company.

The terms of the convention were :—

(1) The extension of the original concession from Baghdad to Basra.

(2) The construction of certain branch lines, the most important of which were :—

(*a*) Sadijeh to Khanikin, linking up with the Persian railways.

(*b*) Muslimiyeh to Aleppo, connecting with the Syrian and Hedjaz railways.
(*c*) Zubeir, below Basra, to some point on the Persian Gulf, not then determined and, as we have seen, never permitted.

This extension from Konia to Basra was a matter of 1,400 miles, placing, when completed, nearly 2,400 miles of railway in Turkish territory under German control. The Baghdad Railway Company was financed by four-fifths German money and one-fifth French. It is believed that the British were offered shares, but refused them. The company was registered in Switzerland for political reasons, and also to escape taxation. Its real headquarters were at Frankfurt.

The system of construction was as follows :—

The Turkish Government paid for the railway at a certain price per kilometer completed and handed over. Actually at the end of the War Germany produced the money to continue the construction as Turkey would produce no more.

The company was divided into two parts :—

A. Exploitation.
B. Construction.

Although they were really one company, these two parts ran absolutely separately. The exploitation side ran the actually completed railways for which the Turks had paid the Germans, while the construction is actually what its name implies. With these two distinct branches the Germans were better able to hoodwink the Turks.

The easiest portions of the line were built first, and it was immaterial to the Germans whether they paid or not.

The selection of the actual route was made by a committee of six—Germans, French and Turks. It took an enormous time over its work owing to the desire of every Turk owning land in the vicinity of the route wanting it his way. Wire-pulling on a large scale took place, and this, supplemented by the fact that all proposals had to go to Constantinople for approval, often resulted in orders being received from the Government to take the railway in a certain direction, which was a physical impossibility, and, to prove its impossibility, actual plans had to be produced.

The two great difficulties between Konia and Aleppo were :—

(1) How to descend from Anatolia into the Cilician Plain.
(2) How to rise from the Cilician Plain over the mountains to Aleppo.

A way out of these difficulties would have been to keep along the coast, but this did not suit the German military plans, as such a route would have been a source of weakness.

The route chosen through the Taurus was *viâ* the Valley of the Bozanti Su, one of three possible ways ; the other alternatives being along

the route of the road *viâ* the Cilician Gates or *viâ* the Valley of the Korkun Su, a river which itself flows for many miles through natural tunnels. The whole of the survey of the selected route was done by photography and was remarkably accurate. The Taurus tunnel system consists of 12 tunnels connected by bridges. The line runs through the spurs of a precipitous gorge, crossing the gorge between the spurs on bridges, thence into another tunnel. Owing to the precipitous nature of the gorge many of the tunnels could not be commenced until those on either side were through. The total tunnel distance is 13 kilometers. All the work was done by electricity obtained from steam plant.

At the outbreak of the late War the situation with regard to the Baghdad Railway was as follows :—

The line was working from—

(1) Constantinople to Eregli.
(2) Adana to Alexandretta.
(3) Part working at Aleppo.
(4) Samarra to Baghdad.

Very little work had been done on the Taurus and Amanus tunnel systems beyond the laying out.

When the War actually started work was shut down for at least six months. The Germans then realised that the War was not going to end quite as quickly as they intended, and they persuaded the Turks to produce some more money and to allow the work to proceed. Work was then pushed on quickly. The broad gauge on both sides of the Amanus was connected by Décauville (2 ft. 6 in.) and was in use for transportation of stores before the broad-gauge tunnels were completed.

The next broad-gauge portion to be done was from Eregli to Bozanti, and until the tunnels were through the Taurus for Décauville this latter place became railhead, everything being transhipped there into lorries and conveyed down the Cilician Gates road to Gulek Boghaz—a matter of 80 miles. In 1917 the Décauville was through the Taurus and trains ran continuously through the tunnels for eight hours a day, work being carried on for the remaining 16 hours. This Décauville was so efficient that it dumped more stuff at Guelebec, the other side of the tunnels, than the broad gauge could take away.

The Air Services, which frequently bombed places in Cilicia, unfortunately failed to find this dump. The gradients on the Taurus sector are far steeper than permissible on British railways.

The first broad-gauge train ran through the Taurus tunnels one month before the Armistice with Turkey. Very shortly after the Armistice the winter rains set in and several of the newly constructed embankments sank badly, with the result that the Turks failed to get away masses of material which we eventually captured. When we occupied the country, early in 1919, our Sappers took over the railway construction, and with it all the civilian employees of the company. They were of every nationality except British. There was only one Frenchman, but all the

heavy masonry work had been done by Italians, who had been there the whole War. The actual engineering feat of the tunnels is a great one, and, to have completed it during a great war and under conditions such as there were in Turkey, was nothing short of marvellous. Apart from civilian engineers the railway officials were Turks and Germans, who never got on with one another. There was no coal available and engines were run on wood. The Turks used to let forests in the vicinity of the railway to contractors, gave each contractor so much wood to provide and so many military exemption tickets with which to do it. The contractor sold these exemption tickets to the highest bidder and was thus paid for his wood. All the material for the Railway came from Germany both before and during the War, and the whole track is laid on steel sleepers marked "Krupp."

There is still a break in the line between Nisibin and Mosul. This is surveyed and the original company has the plans. The difficulties in the way of completion are money, water and Arabs. Whoever builds this portion of the line will have to guard it.

It is very doubtful if any portion of the line will ever pay commercially.

Army of Occupation.—When the Armistice came, it was found necessary to send troops to occupy Cilicia to guard the tunnel systems, to keep order and to take charge of the masses of war material lying there. The original intention was that the French should do this and they started by taking over the civil administration, but failed to find the necessary troops. In January, 1919, therefore, a brigade group was sent from the 7th Indian Division, then extended between Tripoli and Beirut.

The early months of the Army of Occupation were very peaceful and only consisted in an attempt to disarm the towns, in which we were very successfully hoodwinked by the Turks; otherwise it was normal garrison duty. In May–June, 1919, however, the situation changed. The Greeks occupied Smyrna and it was necessary to make preparations in the Taurus against a possible advance by Mustapha Kemal, whose headquarters were at Angora, but the bulk of whose troops were at Nigdeh, only 30 miles away from the Taurus outposts.

The rise of Mustapha Kemal is one of fascinating interest.

Son of a subordinate in the customs at Salonika, he was originally intended for the priesthood, but eventually passed into the Military School at Salonika, and thence to Monastir and Constantinople. On obtaining his commission, while still in the capital, he became imbued with political ferment against the absolutism of Abdul Hamid, his first ideas being gleaned from a play called the "Watn," which had been banned. This play portrayed the advantages of Western ideas of government as opposed to the absolutism of the Sultan. Mustapha Kemal at once started a secret society, which he called the "Society of Liberty," and rented a building. Unfortunately, the caretaker he engaged was a spy and Kemal spent the next three months in a cell.

Released from jail, he was exiled to a Cavalry Regiment at Damascus, where he started more branches of his society. Realising, however, that Syria was not going to play a very important part in the revolt, he escaped from his exile *viâ* Alexandria to Salonika, which was then the Mecca of the revolution. It took the Turkish Government four months to find him, and then he bolted back to his Regiment at Damascus *viâ* Akaba. From Syria he managed to get appointed to the Staff of the Third Army at Salonika, where the secret society now grew into the Committee of Union and Progress. The revolution of 1908–09 really only resulted in the transfer of power from Abdul Hamid to Enver Pasha, and, in consequence, Enver and Kemal quarrelled and have not been on speaking terms since.

Mustapha Kemal did not favour Turkey entering the War, on the grounds that she was unprepared. On the outbreak of the War, Enver gave Kemal command of the 19th Division in the Dardanelles, hoping that he would get shot. Kemal proved himself a most capable General and eventually commanded the whole of the Turkish forces in the Peninsula. After the evacuation he was sent to Syria, where he wrote rather a tactless, but true, letter to Enver, for which he was exiled. This letter was a wonderful forecast of the end of the War. In 1918, when his words began to come true, Kemal was recalled by Enver from exile in Germany and posted to command the Yilderim Army in Palestine, where he only arrived in time to take part in the retreat. He halted the remnants of his force at Adana and then went to Constantinople, where he found everything in chaos. The Committee of Union and Progress had fled, and so Kemal himself retired to Asia Minor to raise a New political party. Orders to return to Constantinople were disobeyed and he was dismissed from the Army. The Greek occupation of Smyrna was Kemal's opportunity. Prior to this his force was barely 3,000, more or less pressed men. After this the whole of Asia Minor flocked to his side.

Kemal, as opposed to Enver, is a true patriot and at heart is really pro-British.

Conclusion.—To try and visualise the future of Cilicia and the Baghdad Railway it is necessary to review the situation as it stands at present. A great part of the railway has been ruined by the neglect of the past two years, and the rolling stock, in bad condition in 1919, is very much worse now. In 1920 Mustapha Kemal practically drove the French out of Cilicia and the Kemalists are running that sector of the line. The Allies control the railway at the Constantinople end, while in Mesopotamia it is being run by the British.

It has been shown how, in the distant past, every conqueror of the East found it necessary to maintain his hold on Asia Minor, the Hinterland of the East, and we have seen how Germany gradually extended her grasp on Asia Minor by more modern methods, *i.e.* a railway, and, with her eyes on the East, only failed when she got to the Persian Gulf.

With the revival of Russia, the Central Powers, or increased strength of Mustapha Kemal, will come the desire for expansion towards the East

The airway now running from Cairo to Baghdad, on the east of the Gulf of Alexandretta, is bound to have its counterpart in the future on the west of the gulf.

Such a route would naturally take the line of the railways as offering the greatest facilities, and to prevent the eternal dissension which this highway has always offered, internationalisation appears the only solution. Failing this, there will be the ever-present fear of a Pan-Moslem combination, which will extend the length and breadth of the East and Near East, linked up by the Baghdad Railway and a repetition of the past *rôle* of this great highway.

THE GREAT "DEAD END."

By MAJOR R. J. BRETT, D.S.O., 43rd Light Infantry

THE Army, presumably, is an organisation for training men for war, and for countless years this dogma has blinded us to such good purpose that we have been unable to realise the value to the country and to the Army of the reinstatement of the soldier in civil life after his term of service with the Colours has ended.

It may be said that this is untrue, because Committees have been appointed from time to time in the past to enquire into the possibilities of various proposals submitted for the amelioration of the lot of the ex-soldier. Nevertheless up to a short time ago, for various reasons, statistics showed that the results were negligible, and the Army became known to the masses by the somewhat opprobrious title which prefaces this article.

What has the State or the Army done for its soldiers after it has dispensed with their services? The answer seems to be that, though through individual and departmental effort a few—very few—have been pulled out of the ruck, it can hardly be denied that the majority have been allowed to drift back without prospect of advancement into a state of life which many joined the Army to avoid. There seems little doubt that sympathy with the ex-soldier in the past has usually been more of a theoretical than a practical problem, and co-ordination of effort has been conspicuous by its absence.

Post-war conditions throughout history have heralded a period of financial stringency and the late war has proved no exception to the rule. As the result of a general survey of these conditions after demobilisation it was agreed by all who were in touch with the soldiers themselves that the time had arrived when training for civil life should receive serious consideration.

A policy was evolved, details were examined, and manual and vocational training promised to become established facts. Nevertheless in all enterprises involving a break-away from established ideas it is morally certain that there will be a strong opposition., The idea of training soldiers in manual work proved this theory. It was unfortunate, perhaps, that a scheme so full of possibilities and worth should be brought up for discussion at a time when retrenchments were being considered more seriously than ever before. To the uninitiated and to the dabblers in hard facts and figures any further expenditure was abhorrent, and it would need a strong case indeed to warrant such apparent extravagance.

The argument, briefly, was conducted on the following lines. In order to ensure that a soldier on his return to civil life may become at

once a useful citizen a certain form of training is necessary. The "team spirit," with which he was impregnated in the Army, should be replaced to some extent by the development of his individuality. In civil life a man does not have a superior to watch over his every movement; more frequently he has to rely on his own resources. He must be brought up-to-date in the conditions existing in civil life and he must be taught his responsibilities as a citizen. The liberties of the masses are shouted from the house-tops, their responsibilities as members of a great nation are seldom mentioned. Lastly, a man must be given the means of earning his living. Assuming that the Army is capable of teaching these principles, the State will be presented with numbers of men eminently suitable to take their places in society and capable of becoming a credit to their country and to themselves.

Failing some such scheme, the fate of the majority of men leaving the Colours seems to be summed up in two words: "unemployment" and "retrogression."

In spite of forebodings, doubts and delays, manual and vocational training were recognised and received official, if somewhat belated, sanction in February, 1923.

The reader, if he has got as far as this, will wonder what are the aims of manual and vocational training, and what it is hoped to achieve through their introduction into Army life.

The trend of modern thought is moving with ever-increasing insistency towards the use of mechanical devices. Not only in civilian life, but also in the military world are we becoming more and more dependent on machinery. The deduction, therefore, seems to be that we must, firstly, try and help non-technical units in the Army by providing a quota of men with some knowledge of mechanics; secondly, we should try and pass into the Army Reserve annually a proportion of rather more highly trained tradesmen; and, thirdly, we should give a selected number of men about to go into civil life training in trades and callings where openings are the most readily obtainable.

At risk of being accused of uttering platitudes, it must be pointed out once and for all that it is useless to try and teach a man any special trade unless his brain has been developed sufficiently to allow him to absorb the training contemplated for his future career. Therefore, it is laid down as a fundamental principle that a man, except in specially exempted cases, shall be in possession of a second-class certificate of education before he starts any form of technical training. Assuming that the man is successful in this examination after some two years' service, it is open to him to spend his spare time during the following years in manual training in Command, Area, Garrison or Unit Schools, until six months before he is due for transfer to the Army Reserve or discharge to pension. Then, if he is suitable, he may attend one of the Army Vocational Training centres for an intensive course in his trade, lasting some six months.

At present the Army Vocational Training Centres may train only

men with Reserve service to complete, and men with 21 or more years service with the Colours. It is hoped soon to include "12 year" men as well, but in the meanwhile the objects of vocational training must be borne in mind and, whereas the training of the Reservist may still be of use to the country in time of war, the State most certainly owes a debt to the old soldier who has spent the best years of his life in its service. The case of the "12 year" men is not of the same urgency, though, as the whole scheme develops, his needs will not be forgotten. Even now he may be accepted for training at Command, Area, Garrison or Unit Schools, which are instituted primarily for this purpose.

The number of men it is possible to train at the Army Vocational Training Centres is at present small, and though expansion is contemplated, it is neither feasible nor desirable that every man leaving the Army shall be given such intensive training. Eliminating the few who are unsuited "temperamentally" for positions of trust in civil life, the following statistics may be of interest in an endeavour to estimate the numbers that can be accepted conveniently for training each year. Excluding India, where British troops are being trained under local arrangements, let us assume that the Army discharges some 15,000 men a year at home and abroad. Of these, it has been estimated that 5,000 are men from technical corps and already skilled, or that they have family interests and need no help. A further 5,000 lack the necessary education to benefit by intensive tuition; for these, at present, there can be no provision. The remaining 5,000 will do justice to the Army and themselves, provided that they are given some training. The Army Vocational Training Centres can accommodate about 1,000 men annually. It remains for Unit, Area, Garrison, or Command Schools, therefore, to provide instruction for 4,000 men each year. Assuming that the average length of a soldier's service with the Colours is ten years, then a garrison with a strength of 1,000 other ranks will discharge 100 men each year. Of these, only 33 can expect training (*see* above). The Army Vocational Training Centres could take seven or eight, leaving 25 to be dealt with by the other schools. It will not be possible, probably, in these schools to provide more than a three-months' intensive course following on a period of post-second class certificate work of two or three hours a week; therefore, only six men need attend the Unit, etc., School at one time.

So much for the scheme at present; the future, obscured temporarily by tightened purse strings, is being provided for, and plans for expansion are ready to be put into operation when the financial situation is less acute. It might be well to sound a note of warning for the future and to forecast that, though numbers may be increased at the Army Vocational Training Centres, the present standard required will probably be raised rather than lowered.

From the foregoing it will be seen that certain measures are being taken for the training of men, but this is not the be-all and end-all of vocational training. After a man has been trained, indeed, in the course of his training, a far more difficult proposition arises—that of securing

for him appropriate work immediately he returns to civil life. For this purpose there are employment bureaux at each of the Army Vocational Training Centres, which aim at maintaining close *liaison* with employers of labour and civilian organisations.

A short time ago the state of employment in the labour world could only be described as chaotic. Unrest throughout the world, reacting on nearly all business houses and private individuals, made the problem of finding employment for men who could scarcely be called highly skilled a most difficult one. Much thought had to be given to the question of what trades and callings it would be profitable to teach, while bearing in mind the statistics available of those trades which were congested, ill paid, or unsuitable for semi-skilled labour.

The situation to-day is, perhaps, easier, but the same care is still necessary, both with a view to maintaining good relationship with the trades unions and the interests of the men themselves.

Potential employment in civil life, therefore, seems to come under two headings: work at home and work abroad, and it is proposed to compare the possibilities of each.

As has been shown above, the prospects of permanent employment at home can hardly be described as satisfactory, although the statistics for a period of six months show that approximately 70 per cent. of trainees at the Army Vocational Training Centres have been placed in employment. There can be, however, no guarantee that this high percentage will be maintained unless the requirements of the labour market are considered at frequent intervals. Suffice it to say that employment can always be found in private service; usually in the building and allied trades; and rarely, if ever, in the motor business and clerical world. Such trades as upholstering, tailoring, shoe repairing and market gardening are invaluable for men who propose to start work on their own, or who have businesses of this kind to go to, or who wish to supplement their pension by small trading. Although there is a slump in agriculture throughout England at present, this depression may not be of permanent duration, and ex-agriculturists would be well advised to return to life on the land rather than attempt to master a technical trade where they would compare unfavourably in competition with men who have already spent many years in that employment.

Prospects abroad seem to hold out greater hope of success. The word "emigration" should be avoided, pre-supposing, as it does in the minds of many, temporary or permanent banishment from Great Britain, an uncomfortable journey in uncongenial surroundings and—to say the least of it—an uncertain future. Overseas settlement, on the other hand, suggests the career of a lifetime, and efforts are being made to induce the Dominions to make a definite offer to soldiers leaving the Colours. The Dominions prefer men of 21 years' service, with families, though they are not averse to younger men of exemplary character who are willing to "take off their coats" and work. Only agriculturists are required as a general rule in the Dominions and Colonies. It is believed that

advantageous terms will be offered, including free passages, grants of land and loans, but only on the understanding that the Army produces its best men, and that training will be given to the settlers before they proceed abroad.

On this understanding the Army is prepared to supply the requisite training for all intending settlers. An up-to-date farm is constituted at Catterick, and arrangements have been made for the provision of agricultural machinery as used in the Dominions. All forms of farmwork are taught, including the rearing of live stock and practical farm-carpentry. Accountancy and bookkeeping are studied in connection with all trades and callings, a knowledge of economics being considered essential to men who, later, may have to depend to a great extent on their own resources.

The question has been raised, Is it worth while to spend annually any more of the taxpayers' money on what may be termed an ultra-military enterprise? The answer, surely, is in the affirmative.

If, by increasing a man's employability in civil life, the Army can be made a more attractive proposition; if units can be made more independent of the technical corps for their daily needs; if the Army Reserve—on which we have to depend to a great extent for success in the early stages of any war—is to be supplied with intelligent and handy craftsmen; and, finally, if we can discharge our debt to the old soldier: then, it is submitted, manual and vocational training in the Army will not have been in vain, will have justified its existence, and our profession will no longer be known as "The Great Dead End."

THE RED ARMY AND THE SOVIET LITERATURE.

By B. Heroys, General in the Imperial Russian Army.

IN the beginning of 1923 the Soviet Government solemnly celebrated the five years' jubilee of the Red army and fleet. In all the Russian garrison towns this anniversary was commemorated by military reviews. On the Red Square at Moscow the troops passed in review before the official leaders of the Government and before thousands of spectators, including many foreigners. This Red Square, by the way, has nothing to do with the Soviet vocabulary, which, it should be remembered, is doing everything to change the names of the historical and traditional places. Formerly, in old Moscow, red implied in Russian everything that was beautiful and gay or impressive.

During the above review, the public was amazed at the sight of regiments passing in perfect order, and in new, somewhat original, uniforms, because everybody present knew that the old army had been completely destroyed five years ago. In connection with the military festival, an exhibition of pictures was arranged at Moscow, illustrating the life and leaders of the Red army, including first and foremost the portrait of Trotzky. He is represented in a commanding attitude, with outstretched arm, standing in the midst of the blazing flames of war and revolution. Though painted in the cubic style, the portrait recalls vividly the original, and bears testimony to the caprice and obstinacy marking the features of this ambitious Jew. Although the exhibition and review were intended solely to impress the public with the spirit and power of the Red army, the sceptic might question the accuracy of their representation, since not only foreigners, but the Russians themselves are prohibited from any intimacy with the realities.

The only means remaining open to the outsider is a study of the Soviet literature, which, although it endeavours to keep things secret, occasionally reveals facts. The Soviet literature is abundant; the Bolshevists look upon the press as their best propaganda, so that the number of military newspapers now is larger than before the last revolution. Then, Russia had only one official daily paper, and about 12 magazines on different special military subjects; at present there are not less than twenty-six periodicals, mostly monthly. Besides all these newspapers, a good many books on military subjects are published, but it is most difficult to get this literature anywhere abroad. The writer of these lines has been fortunate enough to procure some of the Bolshevist literature, including the most valuable contribution of the day, published under the direction of Trotzky himself. What strikes the reader most of all is the systematic combination of military matters and political propaganda.

There are, moreover, a certain number of books which deal exclusively with political matters, their object being to make every soldier a convinced Communist. It is thus obvious that Soviet military training follows an exactly opposite rule to that of every other European army, where politics are excluded from military education.

It is curious that writers on military subjects generally belong to the old school; political writers, on the other hand, are obviously trained Communists. Their standard of writing is low, and their style owes nothing to classical Russian. Whenever they write on purely political subjects their articles are dominated by a passionate optimism; but as soon as they touch on military matters they show abysmal ignorance.

A quarter of the available space in a periodical called *Military Thought and the Revolution*, from which I shall frequently quote, is taken up with political articles. Crude as they are, they are worth examining; for they really give a better insight into what is occurring than the purely military contributions.

What strikes one as curious, if not pathetic, is the way in which officers of the old army have taken up the Communist jargon. Old generals who served the Tzar for thirty years and more, speak of the "future conquest of the Third International" and assure their readers that "the Red army will deliver the peasants and workmen of the whole world." Officers who fought with distinction in the Great War speak ironically of capitalism and imperialism. It is the old story: converts are *plus royalistes que le roi même*.

Nor can it be said that the officers of the old army, who write on purely military matters, maintain a very high standard. The numbers of *Military Thought and the Revolution* issued during 1923 contain twenty-three articles on strategy and tactics, sixteen on historical subjects and eight on fortifications. The last are the best: the writers discuss the defence of a country by means of natural features such as forests, etc., and discuss their subject intelligently and with knowledge.

The articles on strategy and tactics are poor: one, entitled "Air Defence," deserves to be mentioned, but it is a translation; whilst in another article, styled "Aviation," the writer states that air power is the "modern technical means of universal revolution." The author was a young officer on the staff of the Imperial army.

The articles on tactics are interesting in that two of them come from no less a person than General Kameneff, the commander-in-chief at the time. In one of them, this highly placed officer states that the civil war showed how necessary it was to employ flank manœuvre; and, in the other, upon infantry attacks, advocates moving infantry forward in small groups, supported by machine-gun fire. It is little less than extraordinary that an officer holding such a position should put his name to such crude and elementary treatises and that the leading magazine should be proud of them.

The historical articles deal mainly with the civil war, although three of them are concerned with the Great War. Military historians under the

A PRIVATE IN THE NEW UNIFORM OF THE RED ARMY.

Soviet are evidently not much concerned with what happened before the revolution. Of these three articles, one is of some military interest, another is colourless, while one actually proclaims that Belgium proved a traitor in the War, because she joined England and France at the last moment, when she thought it to her advantage. After this preamble, the author (Alexander Svetchin) explains why the Belgian fortresses fell so rapidly. He entitles his article " Heroism or Treachery ? "

The articles on military organisation are of real interest; and one—on the militia—deserves to be examined. The author is a new writer. He is convinced that Russia is well suited with an organised militia; but he sees a difficulty. Militiamen embody a local, semi-national spirit, which is contrary to the ideals of a Communist State. As a way out of the difficulty, he suggests a mixture of locally raised forces and Communist soldiers, and calls the result " the Red Federal Army." Curiously enough, the author is quite unconscious that he is advocating a pre-revolutionary system. The old Imperial Government always endeavoured to avoid the Austrian system of purely local recruiting, and did much what the Communist author now suggests. He concludes his article with unconscious irony: " We must be very careful in so delicate a matter, and not raise detachments which will prove themselves the agents of universal imperialism."

There are four articles on raising troops in Turkestan, one of them by a man who was once a high official there, though he is at present a member of the Soviet delegation in London. The writers all point out that the old policy of enlisting natives of the country was not successful, though they have not lost hope of solving that problem now.

A word should be added on four articles upon " Military Instruction," written by authors who contributed to Russian pre-War literature. One of them goes so far as to say that it is a pity that the soldiers are instructed by such ignorant teachers, and mentions the names of two instructors in the old army who, he thinks, might well serve as models for those of the present one.

Another author is not so lugubrious, and says :—

" At the end of the nineteenth century, we Russians decided to become very deep thinkers; the result was that we became sad, embittered and insincere. Each year we wrote and thought more sternly, and our literature became tedious. Military thought, in particular, was poisoned, etc., etc." Then he is glad to add that the new Red literature is more vital. How he comes to this conclusion is a riddle, as 75 per cent. of the authors now are the same as then ! My personal impression is that the new Red literature is even duller than that which preceded it, for that at least was spontaneous. Though there was always a censor in Russia, his influence was not nearly so strongly felt as it is in the present military press. I am quite sure that every one of these authors could, and would, say something different from what they are saying, if they were at liberty to do so.

A severe criticism of all this matter comes from another military

magazine, entitled *The Revolution and the War*, which is published in one of the large military towns. A few quotations from it will suffice to prove that the present writer has not been unduly prejudiced. Here is a selection: "Of the thirteen articles on tactics and strategy, only three are of some interest, and one of these is a translation from the French." "An historical treatise without a map is of no practical use." "A large percentage of the articles in question are translations. Evidently the editors have not a sufficient staff of literary writers." "The whole printed material represents literary ballast, and is simply a waste of paper." Another provincial paper criticises Soviet military literature in the same way: "Only two magazines discuss their questions in a practical way; all the others are purely theoretical; they raise questions without solving them."

The conclusion is, therefore irrefutable that the Soviet leaders have tried to found a military press and have lacked the means.

It may be of interest to the British reader to see what the Soviet military literature gleans from the British military press. We find two articles on the organisation of the British fighting forces and some extracts from the parliamentary debates during the years 1923 and 1924. Then, a passing note on air defence troops. In the review of foreign literature we have an impulsive apology to the Plymouth Magazine, *The Naval and Military Record*, to their mind, a good example of a democratic paper, which, in gay and varied articles gives its local readers much information, serious at times, entertaining at others. The critics also draw the attention of the reader to two British magazines, *The Army Quarterly* and THE JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION. They speak somewhat ironically of the historical tendencies of the first, and praise the latter for its up-to-date methods.

It is surely most difficult to form an adequate opinion of any army solely by its literature. Nevertheless, when one studied the military literature of France and Germany before the Great War, one could clearly see that they were representing two distinct military schools. Though it is far more difficult to get any insight into the Red army from its literature, yet one can get some impressions of the army itself. The first is, that the Red army has not sufficient men imbued with the new political doctrine to be able to infect the army with it, with the result that the leaders have, for the time being, to content themselves with men of the old school. Evidently the latter, though trying to please the Government, cannot change their traditional way of thinking, and so it is difficult to grasp what is the definite military doctrine of the Red army. The only point one can really gather is that its preparation is for civil war. In regard to an offensive or defensive war, carried on by the united Soviet republics, its leaders place all their hopes on a world revolution, and, as we shall see, they suggest some military measures to provoke one.

It is well known that every army can be judged by two standards of strength: its material equipment, and the spirit of its fighting men.

To begin with the material side, I will give an idea of the organisation, armament and equipment of the Red army.

At the head of the armed forces of the Republic stands the Revolutionary Military Soviet. This body has the sole control both of the army and the fleet, and consists of five to six members, under the leadership of Trotzky. His closest collaborator is a certain Skliansky, another Jew, who is still young, and who was formerly a divisional medical officer in the Tzarist army, but who, as soon as the Bolshevist revolution started, proclaimed himself an expert on military affairs.

It is a well-known fact that Trotzky cannot boast of even so much experience. However, he went through a course of lectures at the Red academy of the general staff, and, judging by his subsequent reports and articles, he seems to have acquired a certain erudition and general knowledge of military rules, which he likes to show off occasionally. But on the whole the executive command was left to ex-General S. Kameneff and his staff commander, both being experienced military men of the old Imperial Army. Both were officers of the general staff and did active service in the field. Before the revolution broke out, Kameneff held the rank of colonel, whereas the other man occupied during three years of the War important posts on the staff of the large group of armies.

These two were the sole non-Communist members of the Revolutionary Military Soviet, but Trotzky's presence there ensured a certain amount of independence, notwithstanding the fact that, theoretically, it is united with two such purely Communistic bodies as the Soviet of Public Commissars and the Soviet of Labour and National Defence, the latter bearing the character of an advisory committee. Finally, over the Revolutionary Military Soviet or supreme council is the Central Soviet of the Communist Party, which consists of forty veteran members of this party. However, as Trotzky is one of them, this supreme party control does not hamper the military command.

One of the main features of the Red army is its division into two separate groups—the regular or fighting army, which has to protect the outer boundaries, and the political army, which has to deal with civil war and guard the governing powers. This second army, although not numerous, has a deep significance. It consists solely of Communists, and only reliable men of a certain political standard are recruited for it. Its object is not merely to suppress discontent and active opposition, but also to be a sort of mentor to the active army.

At the head of this last army stands a certain Antonoff Ovsanko, the commander of the Chief Political Department, to whom the *Daily Mail* some months ago ascribed the *rôle* of a rebel and a future deliverer of Russia from the Soviet *régime*. The following units are at his disposal: (1) political forces, Russian and territorial; (2) divisions of a special nomination—all entirely Communistic, called collectively "Tchon." The first-named group of political troops has a regular formation. The units have their permanent staffs and the men are a tangible factor. The

majority are stationed along the frontiers, not so much to prevent smuggling, as was the case in old Russia, as to guard against counter-revolutionists, and only picked men form the bodyguard of various high officials. It is known that the Finnish frontier is guarded by the Red Finnish battalions, composed of Finnish Communists who had to leave their country after the patriotic movement in 1918, whereas the Chinese battalion is the bodyguard of the People Commissars in the Kremlin.

The " Tchon " forces are really a Communist militia which forms at the first sign of unrest in any particular place. The various staff members are non-commissioned officers, and it is more than probable that they are not even named, as their number depends on the number of Communist high officials in each respective place. However, there is every reason to suppose that in Moscow alone five battalions of this Communist militia force can be called up. Taking into consideration the fact that three infantry divisions (twenty-seven battalions) are quartered in Moscow, this is not much, and yet there is no doubt that these five battalions of fanatics would suffice to suppress a rebellion. At any rate, they will have on their side knowledge, close contact with the ruling power, and, last but not least, machine guns. In Petrograd there are probably also about five thousand " Tchon " men to twenty-seven battalions of the regular garrison. Members of the Tchon organisation, which is directed by secret orders, are distributed amongst the staffs and units of the regular army, but in such a way that as soon as the Communist power is in danger, they can leave their posts, without causing inconvenience, and join their secret forces. During class work in the unit staffs they have to follow their speciality, but at all times these eyes and ears of the ruling power listen and note all that is going on, and report where necessary on the feelings in the staffs and units. " Tchon " is an organ of the famous " Tcheka." Previously, the agents of this committee could be found practically everywhere, but now, in view of the progress of a " planned construction "—Trotzky's favourite expression—they are officially organised. The " Tchekist " has become an " Osobist,"[1] and this word is constantly made use of in the press. Possibly, the distinction is that he is no longer directly subordinate to the " Tcheka," and some special Red battalion communicates with the latter.

Below we quote extracts from a Soviet document referring to the duties of this rather original army :—

" ' Tchon ' is the nearest and closest support both of the Communist party and of the Soviet Government . . .." " To defend the revolution with arms constitutes its chief duty." " Such measures as are adopted by the ' Tchon ' shall not sow any distrust among the rank and file of the Red army."

Turning now to the organisation of the active army, we find that the country is divided into five military districts. This is more or less the same as in pre-revolutionary Russia, although then the number of

[1] " Osobisti " is a curtailed appellation of a " man of a *special* destination."

military districts amounted to thirteen. Besides these districts, there are "fronts" and "armies." One, known as the western front, has for its centre Smolensk, from whence direct ways lead to Livonia and Latvia (along the western Dvina) and to Warsaw. The Turkestan district is also called a "Front." The Caucasus has an army of occupation, and Siberia is divided into two large districts, Western and Eastern.

The supreme command of all military districts, fronts and armies at present is held by Communists. Thus the chief Commander of the Red army and his staff, compulsory representatives of the old pre-revolutionary army traditions, were wedged in between Communists; at the head are the Revolutionary Military Soviet, and the Control Soviet of Communists, and lower in the scale come district commanders and commanders of various other forces, which have the character of private armies.

Then follow corps and divisions in which Communists and non-Communists, or the so-called non-party men, are intermixed. But, nevertheless, judging by the Soviet press, the bearers of the old army traditions are being gradually and systematically weeded out, so that the above-mentioned conditions must be regarded as transitory.

The Red army has been in existence for six years, but during this period it has not been able to provide an adequate number of officers who could successfully replace old army officers. Still less has it been able to produce men who could take upon themselves such responsible duties as those of a staff commander; therefore, for the time being, the Communists have to put up with the inevitable evil, as they call it, of employing old army officers, without whose help they would not have been able either to form a new army nor to carry the civil war through successfully.

Still, we must note that at present the Red colour of the military authorities is evidently deepening and that even Kameneff has been transferred to a less responsible post as an "inspector of the Army," leaving the active command to somebody else—undoubtedly, of the Communist faith.

With regard to the staffs, we find that the Red Army received in four years about 400 newly trained officers from the Red Staff College. They are destined to supplant eventually the representatives of the Tzarist general staff.

Invisible threads seem to connect the head of the Chief Political Department to each responsible commander. The ends of these threads remain in the hands of the political commissars, or, as they are often called, political workers (*politrabòtnik*). The work of these men can well be compared to a seismograph automatically informing the Soviet Central Station of every slight deviation or shock in the political atmosphere, whilst the political army, and in particular the new-created Tchon, are at all times ready to fulfil their duty towards the Communist party and prevent a possible earthquake.

Proceeding further into the organisation of the active Red army,

we see that since the year 1923 it has been divided into two unequal parts, namely, the permanent army and the militia. Before being adopted, this division was widely discussed in the press. The principal motive for the introduction of the militia system—always dear to a Socialist's heart—was the desire to reduce the army in number. When the civil and Polish wars were at last brought to an end, it was no longer possible to tax the nation with the upkeep of an army of about 1,000,000 men. (From five millions in 1920, the army was reduced to one million in 1922). It was estimated that a further reduction, namely, to half the existing number, would mean an economy of one hundred million gold roubles. This reduction surpassed all expectations, but reason could not disregard the voice of experience which emphasised the negative nature of the militia (*opoltchenie*) army, and soon discerned the weak points in the arguments of the militia idealists, such as Jorès, Frans Mering, Engels, and Russian compilators of the Socialist camp.

An interesting pro-militia article appeared in the periodical entitled *War and Revolution* ; its author, in quoting Engels, contends that Souvaroff's armies were victorious " contrary to logic " and thanks to a particular " vital discipline fostered by the Communist *régime* of the Russian village." From the same home-made apologia we learn that General Souvaroff, who was dead in 1801, took Plevna in 1877, thanks to the support of the Communistic columns !

Finally, a compromise was reached, one of the decisive votes being that of Frunze, a prominent and well-educated Communist, who stood at the time at the head of the Ukraine district. An interesting article appeared by him in a periodical of the Western front entitled *Army and Revolution*, Nos. 3 and 4, 1923, under the heading " The Regular Army and the Militia." We intend to give some quotations from this article when we come to discuss the nature of the fighting capacities of the Red army. At present, we merely wish to point out the author's critical attitude towards the militia, and his subsequent reconciliation to it, which is based only on the fact that the introduction of such a system would circulate the military cult amongst the masses. According to Frunze, an ideal Red army would be a Red armed nation, to which end the fusion of *opoltchenie* organs and the replenishing sources might prove useful. Nevertheless, he is afraid to lose the permanent army in full fighting order on the frontiers, or in a half-prepared condition in the centres, and go over to a completely unprepared army.

Towards the beginning of 1924, the Red army finally transformed only nine divisions into *opoltchenie*, namely, in central European Russia and on the western frontier, not touching the eastern borders. This measure reduced the army by about one hundred thousand men, as the list of cadre officers and soldiers in a militia division is quite negligible, and can hardly suffice to guard magazines or undertake the periodical instruction of fresh contingents.

Thus, towards 1924, after the last demobilisation, the actual number of men in service was : Forty-three divisions of the regular army or about

five hundred thousand men, including the infantry, who constitute normally about half the armed forces of a district. Adding to this number a hundred thousand of the more easily mobilised militia divisions, the total figure would be six hundred thousand, which roughly approaches the number of forces of the border States, namely: Finland, 30,000; Esthonia, 20,000; Latvia, 20,000; Livonia, 20,000; Poland, 350,000; Roumania, 200,000. The coincidence of the above figures is by no means accidental.

It will be seen that the Soviet army outweighs the forces of each of the above States taken separately. But should it be necessary to fight against a coalition, the Red army commanders evidently propose to fight on the inner lines of operation, suggestions for which can be found in the military writings. It can be seen from the attached map that provision is made for reinforcing the frontier troops from the centre; but the main feature of the whole scheme is the reorganisation of the transport system, which is at present reduced to one quarter of its pre-war capacity. Whether the Soviet system will work successfully remains to be seen: the actual facts are as follows:—

In 1914, the number of engines out of action amounted to fifteen per cent.; that of carriages, to four per cent. In 1922 these figures became, with regard to engines, sixty-seven per cent., and for carriages, thirty-four per cent. The amount of repaired rolling stock represents now only one-tenth of the pre-war output. In 1922 the rolling stock was replenished by forty-eight engines and two thousand five hundred carriages. Conditions in respect to fuel are no better. The fuel consists chiefly of logs, which are generally damp. In view of this bad condition of things it is somewhat difficult to plan lightning transport of troops and quick mobilisation. This is the reason for the upkeep of considerable forces on the Western frontier and the mobilisation of certain divisions (new *opoltchenie*) on the spot, in order to avoid transport of men. It also explains the distribution of certain militia divisions.

A division is of an independent character, *i.e.*, it incorporates all kinds of units; two or three divisions together form a corps. This incorporation forms a novel feature, introduced after the civil war, and represents a return to the traditional organisation of the old army.

Altogether, there are eighteen corps, three separate cavalry corps (each comprising two to three divisions) and two separate cavalry divisions.

Two cavalry divisions are stationed in the Ukraine, beyond the Dneiper, along the Rumanian frontier and on the line to Poland *viâ* Lvoff (see map). The strongest cavalry corps is in the northern Caucasus, and is commanded by Budeny, who made himself a name in the civil war. Budeny was formerly sergeant major in the Tzarist army, and became famous owing to his raids and mass actions.

An infantry division consists of three rifle regiments (one machine-gun company), one cavalry squadron, one sapper company, one signal company and a motor-car detachment.

The artillery forces vary in the different divisions. Some of them

particularly those stationed on the frontier, have an artillery brigade consisting of three-divisional sections, each section having three batteries (4 guns). One of these sections is a howitzer—one with a total of 36 guns. Other divisions have only two artillery divisional sections, one light (three batteries—12 guns in all) and a howitzer section (two batteries—8 guns) with a total of 20 guns.

According to information to hand, the artillery is expanded threefold when mobilised. Therefore, in peace time, each artillery division must have two extra sets of guns.

Considering that altogether there are fifty-two infantry divisions, half of which have only a reduced artillery, there ought to be about four thousand five hundred guns when the army is complete, not counting the heavy artillery. This figure comes up closely to the war establishment of guns registered in the old army. Evidently this system of a threefold expansion of the artillery is due to the number of guns left over from the old army.

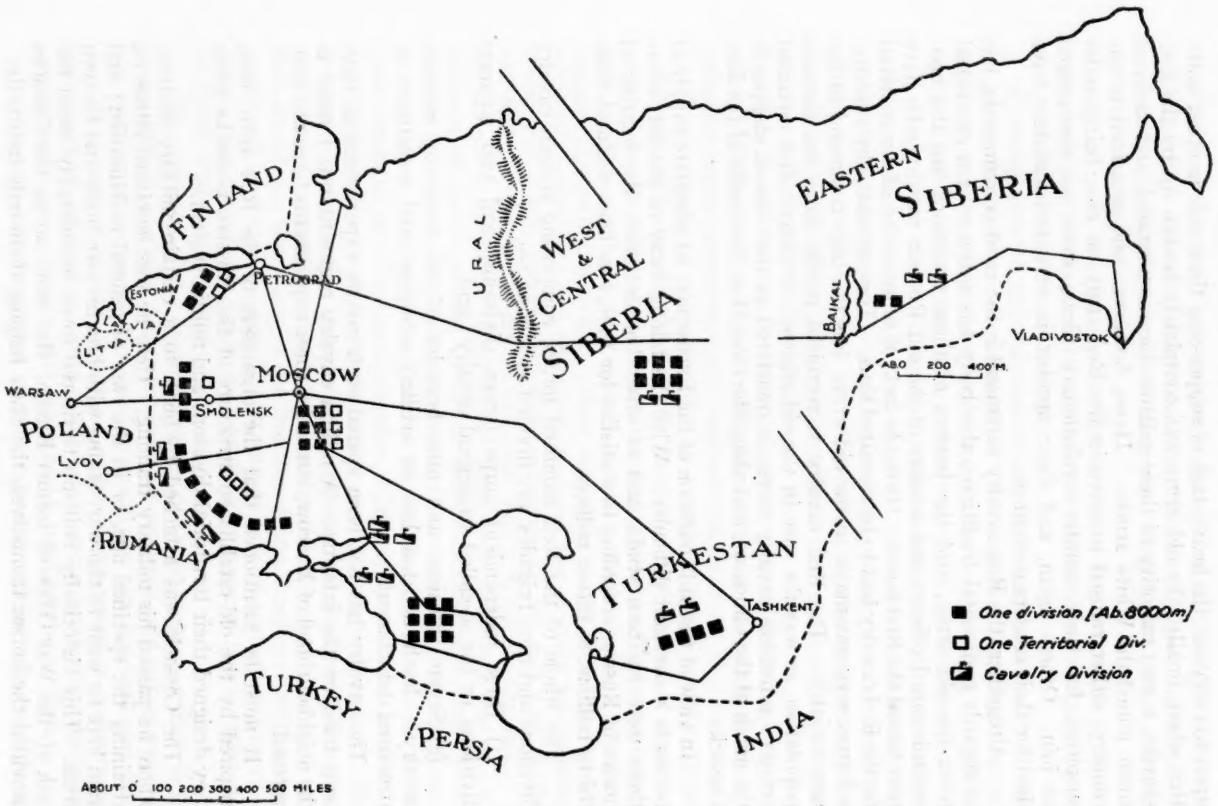
As it is impossible to overburden the infantry divisions with artillery, there is no doubt that, in the event of mobilisation, the Red army will not stop at the present number of divisions. Probably the infantry units will also be increased in number; not only by pouring in fresh men, but also by forming divisional sections, which would influence the existing number of corps.

The reductions in the army, which are sometimes explained by the Bolsheviks as disarmament for the purpose of showing a good example to others, have so far not touched, or only very slightly, the chief units.

In 1921, when an army consisting of 1,065,000 men was to be created, only fifty active divisions and several brigades were mentioned. Now we find that in an army of 600,000 men there are fifty-two divisions, not including the militia. As this represents all the military forces, including those not incorporated in a division, such as: separate cavalry, separate technical groups, heavy artillery, air force, staffs—the actual fighting force of a division does not number more than eight thousand men. Mobilisation will evidently touch only the forty-three divisions of the regular army, one half being doubled, and the other trebled. Thus, the whole army, including the militia divisions, will consist of one hundred and fifteen divisions.

The term of service in the army has been reduced to one and a half or two years. As a result of this, the number of recruits in the population remains about one million youths of military age.

The Red army organisers are giving special attention to the cavalry, towards which they consider themselves to be under a certain obligation for conquering the White army during the civil war in 1919 and 1920. It is notable that the cavalry retains practically no former officers, which must be ascribed to the specially conservative spirit which prevailed among the cavalry officers of the old *régime*. After the revolution in 1917, when the Russian army began to deteriorate, the cavalry retained its discipline better than any other arm. For this reason it was called



SKETCH TO ILLUSTRATE THE GENERAL IDEA OF THE DISTRIBUTION OF THE RED ARMY AT THE BEGINNING OF 1924.

upon to carry out the heavy task of suppressing the revolt in other units. But when, finally, the old army was completely broken up by the Bolsheviks, a vast majority of these gallant officers emigrated, and many of them joined the White armies. Those, however, who remained in the country, either refused to serve in the Red army, or else, being under suspicion for their counter-revolutionary ideas, were not encouraged to join. Others again, and their number is very considerable, have died for their conservative ideas.

Altogether, the Red cavalry command is the most communistic, but as regards regimental traditions, this body has taken over a great deal from the old army, and the bearers of these traditions are the non-commissioned officers and soldiers of the old Russian cavalry who have now joined the Red forces. Owing to lack of officers, the officer material for the Red cavalry had to be recruited thus. This explains why Budeny, a former sergeant-major in the old army, has the high command in the new cavalry. The Red cavalry is recruited partly from the Cossack population, as was the case in the old *régime*. Budeny's first mounted army (a 3-division cavalry corps) is quartered in the Cossack steppes in the north of the Caucasus, and along the river Don, the cradle of the Don Cossacks.

In view of the sad condition of the Exchequer, an adequate supply of horses is a constant difficulty. With the falling away of Poland, where there were eighteen studs, and of other border States, the number of horses in Russia, according to statistics for 1920, has been reduced from thirty millions to fifteen millions.

The whole of the Red mounted forces, comprising sixteen cavalry divisions and nine brigades, are divided as follows :—

(1) Three independent corps (seven divisions) and two separate divisions, or the so-called strategical cavalry; and

(2) Seven divisions and nine brigades of the corps or infantry cavalry. Each division has an artillery company and sometimes an armoured detachment.

The cavalry has not been spared such militia experiments as have been tried on the infantry. A militia cavalry regiment was formed in the neighbourhood of Moscow, but so far these experiments have not been pursued.

It must be mentioned that the organisers of the Red army were inspired by the old-established structure of the Russian Cossacks when they designed their territorial divisions and militia system.

The Cossack was attached by birth to a certain military district, where he passed his military training. Here he was mobilised either on attaining the specified age, or in the case of general mobilisation; and from here he went to the war, taking with him his own horse and his own arms. This historically built-up territorial force considerably eased the task of the War Office of former Russia, the more so as the Cossacks provided the horses themselves, the State helping them only indirectly.

We have no exact information as to what extent the S.S.S.R. have exploited this old-established tradition; however, now and again we read of the Red Cossacks, and we know that certain old Cossack elements form part of the Red cavalry.

At any rate, one can say that the existence of the Cossack territorial force has provided more material than the half illiterate territorial arguments of Engels and Franz Mering.

Turning now to the question of the technical arms, we find that in 1923 the Red army disposed of two engineer regiments, several separate engineer battalions and companies, ten pontoon battalions, eighteen railway regiments and a certain number of road companies.

The military Soviet officials lay particular stress on all that concerns *technique*, which proves that they not only realise the necessity of being up to the highest technical standard, but also doubt that the Red army will ever be able to achieve it. Their fears in this respect are well justified, notwithstanding all the new methods that are now being adopted and the assistance of foreign engineers.

This desire for up-to-date equipment also explains the obvious anxiety of the Soviet authorities to place orders abroad, their preference being for tanks, aeroplanes and armoured engines.

The civil war, on which the S.S.S.R. base the majority of their military doctrines, has brought forward the particular significance of armoured trains. In the civil war the armies invariably fought close to the railway lines, and the sudden appearance of an armoured train often brought a decisive change in the action. These armoured trains represented a sort of mobile stronghold and effectively replaced non-existent fortifications. Their utility was particularly enhanced owing to the fact that neither the Red nor the White armies possessed heavy artillery—the enemy of all armoured machines. Neither did there exist a distinct line of front between the hostile armies. This war was essentially one of manœuvre.

At present, the Red army has about one hundred and fifty armoured trains, which, although they cannot be reckoned as equivalent to the same strength in a European country, still may answer the purpose in conditions similar to those in which their reputation was first made. But it is hardly possible that they are being reckoned on for use in a European war; they are clearly destined for defence in the case of another civil war. But should war break out on the frontiers of the Russian republics, these trains will undoubtedly play a part and in case of victory will serve to pursue the enemy, to which we add that, in case of defeat, they will facilitate retreat.

The question of the organisation of armoured motor-car units is far more difficult to solve. Although the home output is gradually increasing, the number of armoured cars in 1923 was below one hundred and fifty. The development of this branch of military equipment is considerably hampered by the fuel question. Not only has the production decreased considerably, but a greater part of the fuel is used for the air fleet.

However, armoured cars cannot be used extensively on Russia's

territory, as good roads are scarce, and the good condition of tracks depends on the season and the nature of the soil. For service on all roads, the Red army has formed four motor-car detachments, provided with caterpillar tractors, besides which there are about fifty tanks made according to their own design.

In order to be able to realise that the technical equipment of the Red army is not comparable to European standards, one need only mention that, in 1918, there were several thousand armoured machines and tanks on the British and French fronts. Tanks could certainly be very useful in Russia, as the condition of the roads does not affect them; but fifty tanks distributed amongst an army of 600,000 men would be of no use at all.

The great war has shown that only a mass adaptation of tanks, with a vast number in reserve, could give a satisfactory result. In March, 1918, England decided to bring into action five thousand tanks and France four thousand. Naturally, such a mass production could only be carried out by countries with a highly-developed industry. In former days, Russia could have coped only partly with a similar task and probably would have placed orders abroad. The present Russia, however, with its very low scale of production, will be unable to carry out even the smallest tank programme.

The same can be said with regard to the mechanical transport of the army. In 1919 the Soviet Government disposed of ten thousand lorries, representing about one-third of the material left over from the great war. Most of these lorries were bought or ordered abroad, and to a great extent are unsuitable for Russian roads. It stands to reason that a mechanical transport cannot be built up on repairs alone. Therefore, the Soviet Government proposes to organise the production of lorries at home, and hopes in the course of five years, starting from 1924, to build ten thousand new lorries. However, the feebleness of the present productive forces is proved by the fact that during the present year an output of only five hundred machines is contemplated.

Assuming that this programme will be successfully carried out, and that towards the year 1928 one-half of the old lorries—that is to say, five thousand—will still be in working order, the Red army will then have fifteen thousand lorries. To these will have to be added the machines imported from abroad, but it is impossible so far to estimate their number; judging from information up to 1922, it seems that it does not exceed some dozens.

For home warfare and war conducted on defensive lines within Russia's boundaries, the proposed number of lorries may prove sufficient, but in the case of an offensive war of European standard, it will be very much below that of the transport forces of any first-class Power. We need only remember that towards the end of the great war the armies on the Western Front disposed of: France, ninety thousand machines for transport of infantry; England, eighty thousand; and Germany, seventy-five thousand.

WORK WITH THE ALLIED COMMISSION OF CONTROL IN GERMANY, 1919–1924.

By His Excellency Major-General the Hon. Sir Francis R. Bingham, K.C.B., K.C.M.G., Governor of Jersey.

On Wednesday, 8th October, 1924, at 3 p.m.

Lieut.-General Sir Noel Birch, K.C.B., K.C.M.G. (Master General of the Ordnance), in the Chair.

Lieut.-Colonel Sir Arthur Leetham, K.C.V.O., C.M.G. (Secretary): Ladies and Gentlemen, I am sorry to inform you that the Prime Minister, the Rt. Hon. J. Ramsay MacDonald, who had provisionally consented to take the Chair this afternoon, is unable to fulfill his engagement, as he is engaged elsewhere. He desires to express to the meeting his deep regret at his absence.

The Chairman: Ladies and Gentlemen,—Sir Francis Bingham is so well known that no introduction from me is necessary. He has just completed a very difficult task, which could not have been carried out by anybody unless he possessed consummate tact, and he has come through it with flying colours. The lecture which we are about to hear will differ somewhat from most of the lectures that are delivered at this Institution, in that there can be no discussion afterwards. The Allied Commission of Control is still in being; it is an international body, and I do not think it would be at all politic or right to criticise its actions at the present moment. I am sorry to say, therefore, that we shall not be able to have our usual discussion to-day after the lecture.

I will now ask Sir Francis Bingham to begin.

LECTURE.

IT is necessary for me to be very careful to-day not to say anything which would in any way compromise the work which the Allied Commission of Control is carrying on at the present time. You will appreciate, therefore, that it is desirable that I should skate over as gracefully as I can any debateable points. As Sir Noel Birch has just said, the Commission is still in being, it is of an international character, and I do not want to upset things by saying anything stupid.

I have photographs in my possession, taken 4th August, 1914, of a German train labelled "Nach Paris." We know that, providentially, neither that one nor any others similarly labelled, arrived at their destination; but, on the 12th September, 1919, a special train, labelled

"à Berlin," containing 70 officers of five different nationalities, left Paris and arrived at Berlin on the morning of the 15th September. These 70 officers were the advance guard of the naval, military and air commissions of control appointed by the Treaty of Versailles to superintend the carrying out of the naval, military and air clauses. This advance guard of 70 officers was in response to the German request to send two or three to discuss matters before the arrival of the commissions, and the presence of 70 officers, instead of three, was not welcomed. However, Marshal Foch insisted, and we went. It must be remembered that the Commission itself would not come into being legally till after the ratification of the Treaty by three of the principal Powers. The only amusing incident of the journey was at Düsseldorf, where the British officer asked for our passes and was told by me, politely but firmly, that he had better not stop this train, as it was not an ordinary one but a very extraordinary one. As the German authorities were afraid of a demonstration at Friedrichstrasse we were put out of the train at the Zoo Station, truly a suitable point of debarkation for a menagerie like ours!

The state of Berlin when we arrived was melancholy: town shabby, taxis on steel tyres, food short, and people sullen, tired and yellow. Food cards were necessary for almost everything, and when you did get food it was generally *Ersatz*. No astonishment was expressed at our appearance in the streets in uniform and in foreign cars, but the newspapers were sarcastic and dubbed us "the unwelcome guests." The inhabitants were just apathetic and apparently looked on us as an unavoidable necessity. Be it remembered that the Germans had to house us, give us facilities to travel where we liked, find us offices, petrol, etc., and also pay us allowances.

The day after our arrival the chiefs of the different delegations—British, French, Italian, Belgian and Japanese—were received by Herr Noske at the German War Office—surely a historic reception! Noske, a tall, stooping man in spectacles, followed by two German officers in uniform, all looking very depressed and unhappy, walked into a room in the German War Office, where were drawn up seven representatives of their late opponents. He was, I think, the outstanding man in Germany—a basket-maker and perambulator-maker by trade, was imprisoned several times for his Socialistic propaganda, and was in 1918 sent to Kiel to put down the revolution. His next exploit was to lead the Marine Brigade to Berlin in 1919 to put down the revolution there, and when we arrived he was Minister for Defence and the man to whom everybody looked to put down local disturbances. He was eventually thrown out by the Communists after the Kapp *putsch*, of which more anon. I met him two or three times and was very impressed by his character. His life was worth very little, and he told General Malcolm that it was no use carrying arms, for he would be shot in the back

Those three months of 1919 were indeed grim: snow, fog, strikes

and railway stoppages, and rumours of revolution were rife. We felt like lepers on a leper island. All we could do was to complete our *questionnaires*, so as to have them ready when the Germans had appointed their *Liaison* Department. At the end of October, when the situation was becoming intolerable, I begged General Nollet to write what amounted to an ultimatum that if they did not start work in seven days we would wire to Marshal Foch that we could not get on with the work and would leave the country. This he did, and Von Simmondsen then told him that steps were being taken to do as we wished. The Germans induced some officers to serve in the *Liaison* Department, at the head of which was Von Cramon, who had been with the Austrian headquarters the whole war; General von Kessel, who had been Chief of the Staff of the First Army; General von Biebenstein, the Engineer-General; and General Strempel, an artilleryman, who was to be my *vis-à-vis* as head of the Armament Sub-Commission.

We had another historical meeting on the 10th November, when we were solemnly presented to our *vis-à-vis* and handed them our *questionnaires*. When I gave mine to Strempel he looked at the bulky volume with some astonishment, and I informed him that I should be ready to answer any questions whenever he wished. At the next meeting I told the interpreter to ask him if he wished to ask any questions. His answer was, " Tell the General I don't think anything has been forgotten." I know now that they did not believe that the military clauses would be carried out; but, when they saw the net that had been drawn over them, they threw up the sponge and realised that the work had to be done.

I have a number of lantern slides to show, and I think that if I explain the organisation to you while they are being shown it will make matters more clear and interesting than if I gave you a long recital now. My lecture, also, must not exceed its allotted time.

In January, 1920, the Treaty was ratified, the main body of the Commissions, some 220 officers, arrived and were sent to their stations in the districts, and we set to work seriously. We had only one plenary meeting with the Germans, and this ended in a fiasco. Von Cramon claimed the right to open the meeting, as it was in the German Foreign Office, while Nollet stated that, as Controllers, it was our right. The meeting never did open, and after much wrangling on paper it was decided to have no more plenary meetings, and that the Presidents of Sub-Commissions should meet their *vis-à-vis* when necessary.

After we did get to work there were several stoppages. The first was in February, 1920, when the list of war criminals to be surrendered was published.

As it included names like Hindenburg, Ludendorff and all the German Generals, feeling became intense. Nobody would come near us, and even factory owners, who had up till then been working with us amicably, threw their hands in with the others.

Then, in March, came the Kapp *putsch*, which I will explain when showing the slides, when we declined to have anything to do with the Kapp-Luttwitz combination. Feeling ran very high, and, although the quarrel was not against us, we were advised not to wear uniform in the streets. Germany had returned to the state of tribal quarrelling that had always existed in the country up to the time of Frederick the Great.

Paris became very restless when these delays occurred. The French could not understand our difficulties, and we often wished that they would come and see what was going on for themselves.

Various other small stoppages took place and the final deadlock came in January, 1923, when the Ruhr was occupied. Control recommenced on the 8th September of this year, taking the form of a stock-taking to reassure the Allies that the Germans had not started re-arming in the interval since the inspections stopped.

On the other hand, there were several spurts in the speed of the disarmament work. At the Spa Conference, held on the 5th July, 1920, Mr. Lloyd George spoke very firmly on the subject of the surrender of arms, telling the Germans that it was unthinkable that a nation like theirs could not enforce its Government's orders. The German Government then appointed a Commissioner, who offered rewards and generally organised matters so that a considerable number of arms and much equipment was handed in. Again, we were having considerable difficulty in getting the Bavarian Einwohnerwehr to surrender their arms; but after the Paris Conference, in 1921, a considerable quantity was surrendered, if not all. I will show you presently some slides of the surrender.

There were a certain number of incidents, three of which were serious: one was at Bremen, where the officers were attacked and a French officer's clothes were torn. For this, apologies were handed to us by an unhappy-looking officer in uniform. Later there were two serious incidents, one at Ingolstadt and one at Passau, when the Entente cars were stoned by threatening crowds. In addition to apologies, a fine of £50,000 was paid. This amount was divided by the Five Powers, and I handed my share in to the British Treasury. Apart from these incidents, the work as a whole proceeded smoothly—a great credit to the Entente officers, and also to the Germans.

Generally speaking, we were treated correctly, and, speaking personally, I can say that when travelling over the whole of Germany, meeting all classes and ranks of soldiers, civilians and employers of labour, I never had anything but the most polite and correct reception. I received one threatening letter from a man who told me he was going to put millions of microbes into my bed, but he apparently thought better of it. At the time of the Ruhr trouble, French and Belgian officers were treated badly at Königsberg and Munich; and at Königsberg they could get no food except what was provided for them by my officers.

During the four years and nine months that I was in Germany the country passed through noticeable and distinct phases.

In 1919 it was tired, hungry, sullen and thoroughly down and out, the mark at 90 to the £, Socialism on top, and monarchists and militarists at the bottom.

In 1920 the physical and moral conditions were better, but internal troubles were acute, the extreme Communists trying to gain the upper hand over the Socialists, who were really moderates.

In 1921 the Royalists and militarists were still down. The conditions were more normal, but the mark was falling very fast, prices and wages rising, occasional rumours of *putschs*, but fewer than before. If money was sent out of Germany, it was done in these years of 1920 and 1921. My information was that when they were able to undersell Europe, they left abroad the money which they received for their goods.

In 1922 there was mad speculation throughout the country in the mark and in industrial shares. Profiteers and speculators made money while the old middle classes and upper classes were destitute. In this year the Socialists appeared to begin to lose their power, and the swing started to the right.

Rathenau, the Foreign Minister, was murdered in the summer, the murder being engineered by the reactionary "Consul" organisation of which Ehrhardt was the prime mover. As Commander of the Marine Brigade he also was behind the Kapp *putsch*, and is even to-day one of the greatest dangers in the country.

In 1923, with the occupation of the Ruhr, there was despair and anger. The mark fell by millions till the spring, when it was in billions. Farmers would not send their food into the towns, as they would lose half the value of their money in 24 hours, and long *queues* were to be seen outside all the food shops. I think, indeed, that in October, 1923, we were nearer another revolution than we had been since the Kapp *putsch*.

In November, 1923, Schacht brought in the Renten Mark, really a mortgage on German lands and an unrealisable one; but the fact that it was limited to the amount of issue established confidence and stabilised the currency, and food came into the towns. When we arrived in Germany the mark was 90 to the £; when I left it was stabilised at 19 billions to the £. Lord D'Abernon, the British Ambassador, was the apostle of stabilisation. He preached it day in and day out from the day of his arrival, but crass ignorance and a total inability to understand the currency question prevented anything being done. He pointed out that without stabilisation it was impossible to impose taxes, that without taxation it was impossible to balance the Budget, and until the Budget was balanced there could be no talk of reparations. No doubt, certain interested individuals helped depreciation on its downward career, as they thought they would be able to undersell other nations owing to the low wages; but the snowball got out of hand, and at the end of 1923 manufacturers had spent all their cash in building factories, installing

machinery, etc., so as to avoid taxation, but at the same time *pari passu* the wages had climbed so high that goods could only be manufactured at above world prices. England and America were then, and probably are now, full of Germans trying to raise capital.

This year, 1923, saw the squalid Ludendorff-Hittler *putsch*, Hittler being a fanatical Austrian carpenter who thought that he was a Mussolini. Ludendorff, suffering from the complaint known as Loss of Power, clutching at any straw which he thought would help him to recover, joined with this fanatic. Presumably he thought that he would be hailed as a Dictator, would lead a force to Berlin and would there be welcomed as a leader of a new Germany to raise again the red, white and black flag. It was a pitiable sight, a former Chief of Staff of the greatest Army the world has ever seen taking part in a squalid *coup d'état*. He was next seen lying on his stomach in the streets of Munich dressed in a frock coat, while thirty or forty misguided youths were killed around him. Hittler and Ludendorff had tried to get the Reichswehr to join with them, but Von Lossow remained loyal to Von Seckt and the Government.

In 1924 the election showed a big swing to extreme right and extreme left, the Socialists losing seats, but no party having a majority over the others.

History will say whether our work has been a success. We have had no precedents to guide us, and it will be difficult for anyone to say that it ought to have been done differently. Except Napoleon after Tilsit, nobody had ever before tried to disarm another nation. He did it very indifferently, and it has to be remembered that in his day it was the *personnel* that mattered, while to-day it is material which is the difficulty. We can at any rate say that at present Germany is unable to raise up her head as a military Power. While on the 1st August, 1914, she had 120 divisions and some 5,000 guns, and in 1918, 260 divisions with perhaps 20,000 guns; to-day she has seven divisions and 288 guns. The work of the Commission of Control is still going on, so that it would be mischievous on my part to speak any more on this subject. To Germany the Commission of Control has been an expensive luxury, of which she could have got rid eighteen months ago if she had been wise and done as we asked. Her pride has stood in the way and she has had to pay for it.

I told my *vis-à-vis* that I did not want to stay there and that he did not want us to stay, but that if they did not carry out our requests we should stay till they did so.

The above is a very short *resumé* of the conditions obtaining in Germany during the four years I was there, but our work was so frequently affected by the political and social factors that it would be wrong to leave out an allusion to the state of the country.

I owe personally a great debt of gratitude to the War Office for their invaluable support. They were never rattled and trusted the man on the spot.

General Nollet used frequently to ask: "What will your War Office say?" My answer was: "They will back me up if they think I am right, and when they disapprove my action they will send someone else to do the work."

I must take this opportunity of acknowledging what I owe to the British Delegation. They were loyal, hard-working officers, never in the limelight, and always showing tact and firmness in dealing with difficult situations.

The different nations in the Commission worked together with the greatest unanimity considering that their points of view varied very much, and I think it is a feather in the cap of the officers of the Commission that co-operation proceeded so smoothly.

A great deal of the credit for this is due to our President, General Nollet, one of the wisest men I have ever met. He was always ready to recognise that other people and other nations had a right to their own points of view. I collaborated with him continuously from the end of July, 1919, to May, 1924, and the longer I did so the more I respected his judgment.

I will now show you the slides illustrating our four and a half years' work; and others of Heligoland, which island I was able to visit, thanks to the kindness of Admiral Sir Edward Charlton, President of the Naval Commission of Control.

In June, 1919, I was told that I was to be President of the Sub-Commission for Armaments in the Military Inter-Allied Commission of Control and started with my staff officer to work out the organisation. The obvious thing to do was to divide the country up into districts, decentralising the work from Berlin. Different nations were allocated to run the different districts. We had four English districts, four French districts, two Italian and one Belgian, as you will see on the map.

This slide of the Königsberg District Committee shows you what the running of an English district meant, and the French and other District Committees were similarly organised. We decided that Engineers (in our case Inspectors of Ordnance Machinery) would be necessary to control the factories, and accordingly, in the industrial districts such as Westphalia, there were a majority of Inspectors of Ordnance Machinery, while in the others ordinary regimental officers would suffice.

This slide shows you the Council of the Commission. We sat as the head, wrote the letters to the German Government, settled all questions of policy, and collated the returns sent in by the districts. To give you a small idea of the correspondence dealt with: in the Armament Sub-Commission alone we had 110,000 letters in and out in the 4½ years.

The next slide gives you a schedule of the German war materials as laid down in the Black Book presented to the German Government. The Treaty talks rather airily about "war material." We had to decide what "war material" meant. The Germans maintained that war

material meant only guns and rifles, ammunition, etc.; but we insisted on our full schedule. When we demanded surrender, they began to put forward absurd requests to keep certain material. They asked to keep the rangefinders, as they said they would do for taking the heights of the clouds. They asked to keep the liquid-flame-throwers, as they said they would do for burning the insects off the trees and were a humane instrument of warfare; and, to our instructions to destroy the ramps all round the powder factories, they said: "Surely you will not destroy those? they will do for keeping the chickens in and keeping the breeds separate." In a particular place where we were blowing up ramps, they objected because they said there was a very important lot of chickens being hatched out, and it might interfere with the hatching. I do not think it was done to ridicule our demands. It was simply due to the fact that they had no sense of humour.

This slide gives details of the maximum stocks authorised by the Treaty. Everything over and above these figures they were supposed to hand over to us for destruction. The scrap after destruction belonged to us and was sold. The German Government handed their surplus material over to a Fiduciary Company, which set up destruction depôts, of which there were 400 open at one time. Each one of those destruction depôts was inspected once a fortnight by an officer of the Commission; particulars were taken of the stock destroyed, those particulars were handed in to us, and returns were compiled and sent to London and Paris.

This slide gives a return of some of the most important items of German war material surrendered to the Military Commission of Control. You will see that it embraces a goodly amount.

I now have three slides containing a report of the German war material destroyed. These are the actual returns that were sent in in December, 1923, when control was stopped, and it is the final statement so far as I am connected with it. You will see that 87,000 machine guns were destroyed, 40,000 tons of powder, and so on. Of course, there may be mistakes here and there; but with regard to the guns, we had the registered number of every gun, so that we can answer for every one. You will see that eight million pieces of equipment are accounted for.

This chart shows the number of factories inspected. Article 168 of the Treaty of Peace says: "Within three months of the coming into force of the present Treaty, all other establishments for the manufacture, preparation, storage, or design of arms, munitions or any war material whatever shall be closed down." The 7,000 factories referred to had to be visited by our engineers. We had very able I.O.M.s, who gave orders as to what was to be destroyed and what machinery was to be converted from the point of view of seeing that the establishments went back to their peace-time manufacture, and not to their war-time manufacture. I am not going to say, of course, that in war time you could not turn the factories back again for the manufacture of war

material. We inspected practically 7,000 factories, and of those 6,920 have been given a free certificate, which means: "You have done what we have told you to do and now you may go ahead." The German authorities only reported about half the number to us, but this is not to be wondered at as they gave the orders to big contractors and probably did not know the names of the sub-contractors. I have heard that the German authorities are amazed at the cleverness with which the destruction has been carried out—that is to say, the maximum of damage has been done with the minimum to show.

I am now going to show you a few slides of Krupp's. About 70 per cent. of the German war material was made in Westphalia, because that is the part of Germany where the coke and ore are. Krupp's manufactured an enormous amount of war material. We had a separate committee living there under the guidance of Colonel Everett, C.I.O.M.—a very able officer, who had the confidence of the firm. That committee is still living at Essen. I have not time to read you all the figures, but it is interesting to know that, for instance, 5,500 tons of machinery have been destroyed, and that 127,819 tons of war material have been destroyed apart from machinery. In order to bring home to your minds the size of Krupp's and the enormous amount of work that they did, I may tell you that at the highest part of their curve of work they were turning out one gun an hour every 24 hours of the day, and they were turning out one shell per press per minute in a house containing 60 presses.

The next slide is a photograph of Krupp's in 1918. You will see the colossal size of the works. In August, 1914, there were 80,000 people employed in all Krupp's works, while in October, 1918, a maximum of 180,000 were employed. At the Essen works alone there were 42,000 people employed in August, 1914, and 107,000, including 31,000 women, in October, 1918. In May, 1922, there were 53,000 people employed at the Essen works. They are now making sewing machines, agricultural machinery and all sorts of other things.

This next slide gives you a good idea of the big shell house at Krupp's, 500 yards long. It has now been stripped entirely of all its war machinery. When I was there it was making agricultural machinery.

The next slide shows one of the most important things we did at Krupp's from the point of view of destruction. You cannot make guns without shrinking pits, and we destroyed 16 out of the 20 shrinking pits. These pits were destroyed by filling them in with concrete. The largest pit was 14 metres deep by 10 metres diameter, and 1,400 tons of concrete were used to fill up this large pit.

The next slide gives you a very good idea of the big shell press house, in which, as I told you, one shell per press per minute was turned out. This machinery has been destroyed.

You will obtain from this picture a very good idea of the way the guns were destroyed. Acetylene burners were used with which a strip was burned out of the guns all the way round, and then the guns were cut up into strips. It was possible to destroy a small field gun in nine

minutes in that way, and a big one would take about an hour to render useless.

The next slide is a very interesting one, showing 4,500 guns which Krupp's were completing at the end of the war, the whole of which were destroyed. They are not included in the total of 33,000 given on the schedule you have seen. In addition to those 33,000, there were these 4,500, another 1,500 half manufactured at Bochum, the 5,000 given up at the Armistice, and over 6,000 captured in the German retreat during June, July, August and September. That accounts for practically 50,000 guns, and that figure does not include any guns that we took or destroyed in the first four years of the war, nor does it include the guns the Germans sent to the Turks and to Egypt.

You see on the next slide the biggest gunshop in the world under one roof, 19 acres in extent. Locomotives are now being made there. This was a very "red" shop, and I think the directors were glad when we got out of it without a demonstration.

Meppen. The proving ground on which all the Krupp-made guns were proved is shown on this slide. A great deal of destruction has been done here to put it out of action.

I understood it was from here that the gun which fired into Paris was proved. I heard that it ranged some miles farther than they expected, and that their miscalculation was due to the fact that no one had realised what happens when the very high strata of air are reached.

This slide shows 3,000 field guns destroyed at Spandau, a big Government arsenal just outside Berlin, and the next slide shows 2,000 field gun carriages destroyed at the same place.

I am now going to show you three slides showing how millions of shells were destroyed. There are at least three ways of destroying this ammunition. In one way, the proper way, you can melt the explosive out; a second method and an extremely dangerous one is to cut the shell open with a lathe and take out the charge.

At several places they piled the shells in rows and lighted a fire in front to melt the explosive, which then runs out I saw it being done at Frankfort and thought it was very dangerous. I asked one of these men: "Have you killed any men doing it that way?" and he replied "No, not many."

I now show you a skeleton map of Germany in reference to the General Report of the Fortifications Sub-Commission. The Treaty says that the fortifications on the West are to be destroyed, but it also said that the ones on the East and South might be left, and that they would be allowed to keep their armament. What was meant was that they would be allowed to keep any old guns in them. The Germans said: "Oh, no; modern armament means mobile armament," and they asked for 4,500 guns. We, of course, refused, and they eventually gave way. We finally allowed them 22 for Königsberg, and they were allowed to keep some 25 others on the Baltic. They produced ridiculous arguments, even saying that Custrin, 40 miles east

of Berlin, should be allowed guns to protect the town against an attack from Russia.

The North Sea forts, Bochum, Nordeney, etc., had also to be dealt with, and here the Treaty read differently in French and English. The French translation said " canons existants," while the English translation said " guns in position," a very different proposition. We insisted on the latter, and eventually they were allowed 440, instead of 1,600.

The next slide shows an infantry strong point before and after destruction, as ordered by the Fortification Sub-Committee.

You will see in these slides the destruction of some of these forts.

I now turn to another subject altogether, so far as the slides are concerned.

Obligatory service had to be done away with; and there is now voluntary service for 12 years. The German Army had to be reduced, and the slide shows how it has been reduced to seven divisions, and you will see the location of these divisions. Our Legal Department had to see that the law doing away with obligatory service was absolutely correct, and that no loophole was left to evade the order.

They have had to examine many laws, but as some of the matters are still *sub judice* I think I had better leave them alone and not discuss them further.

One of the clauses of the Treaty was to the effect that the military schools were to be done away with. The slide I am showing you is a photograph of the Cadet School at Lichtenburg, a sort of Sandhurst, and it depicts the final parade on the 10th March, 1920.

The first of the next two slides I am going to show you indicates on the chart the location of the powder factories before the war. The Germans made 320,000 tons of powder during the war, while we made 400,000 tons, including the amount we obtained from America, and, considering the size of the Army, one would have thought that they made much more, but I was confident as to the accuracy of these figures. Among other duties, we had to say where Germany should have her powder factories for post-war work. We have allowed her one factory at Rheinsdorf, as shown on the chart, and a black powder factory, shown in another position. That is all she has got. We have also said how much machinery she is to keep for her peace time manufacture.

The next slide is a return showing the cost of destruction in the chemical and powder factories in Germany.

This slide shows the destruction of Düneburg powder factory. This is where the Germans made their special nitro-glycerine powder which they used on their warships. They adapted a special process here known as making nitro-glycerine powder without a solvent. It has great advantage in economy of time, as the powder is dry in a few hours, but it is a dangerous process. It was, however, essential to Germany's needs, owing to her shortage of acetone as a solvent.

These two slides show the shell-filling factory at Dormegen, and what it looked like after it was destroyed. You will see how thorough the destruction has been.

I now show you a slide of a factory near Cologne which the workmen blew up themselves. They did not want any more war, so they blew it up.

Here is another picture of a big powder factory at Bobingen in the Cologne district, and you will see in the next slide how thoroughly it has been destroyed.

The next two slides show the gas factory at which 80 per cent. of the gas made for the German Army during the war was manufactured.

This slide shows the place where the mustard gas factory stood which was destroyed by the order of the Army of Occupation. You will see that it has gone altogether.

The tables showing the cost of destruction of the mustard gas factory and the table showing cost of destruction ordered by the M.I. will, I am sure, be of much interest to you. They show the length of time spent on the destruction and the cost.

This slide shows the chlorine cells destroyed at Leverkusen. They had about 600 cells there and we brought that number down to 100 cells. The German in charge told me that they had not got enough chlorine left for their ordinary chemical industry. It must be remembered that chlorine is a base of all dyes manufactured and Leverkusen is the largest dye factory in the world. They told me they had a range of 5,000 colours.

The next three slides are very interesting. The first shows the destruction of plant for the recovery of nitric acid by the sulphuric process. The usual talk that one hears is that nitric acid is made from the air. This is not the case. You make ammonia, first of all, from air gas and water gas; you then turn it into nitric acid by the sulphuric acid process or by the water towers. The machinery for doing that has been destroyed and the towers for the recovery of nitric acid by the water process have all been destroyed. In the next photograph you see the chimney at the Dobritz factory falling. It was completely destroyed.

This slide shows rifles being destroyed. Altogether we destroyed 4½ million rifles. One of our difficulties was trying to lay down the difference between a sporting rifle and a war rifle.

We gave our ruling, but, as a hard matter of fact, the machinery for manufacturing the two is practically the same.

This slide shows you the flammenwerfer in action, which you will remember the Germans suggested should not be destroyed, but could be used for burning the insects off the trees! and also as humane instruments of warfare.

The next two slides show you the destruction of fuses and the destruction of rifles by the Police after the Spa Conference. You will see how complete the destruction has been. The Police are the celebrated Sicherheit Polizei which the Commission maintained; they were merely soldiers in Police clothes. This matter is also *sub judice.*

This slide shows shells being emptied at the Brelch Gas-Filling Factory. This is the gas factory at which the Germans filled practically the whole of their shells. It is about 30 miles from Hamburg. One portion blew itself up and the remainder is practically destroyed. It is in a horrible, desolate district, trees blackened by gas. The slide shows a shell emptying its horrid contents into the air.

The next slide shows the destruction of powder. Altogether we burned 40,000 tons of powder. The method is to lay out the powder in large circles and set fire to it.

Now, I come to some slides showing the destruction of the rifles of the Einwohnerwehr in Bavaria. The authorities asked that they should be allowed to keep their rifles, and in the first slide you see 30,000 of the Einwohnerwehr demonstrating in the big square outside Munich. The next slide shows these 30,000 people saying: " We will never give up our rifles "; and the next slide shows the rifles, at least 145,000 of them, which were given up. Of course we did not get them all, but I am sure you will agree it is a nice little lot. We also got some machine guns, but we cannot say we got all of them. The Bavarian argument was that they had suffered so much in the 1919 revolution, when guillotines were erected in the streets of Munich, that they refused to be left defenceless in the future.

Now I come to some slides dealing with the Kapp *putsch*. My servant woke me up one morning and said: " Beg pardon, Sir, there is a revolution." Sure enough the Government had gone, and a man called Kapp, a nobody, walked in at the head of troops and took Berlin, and Noske and the Government moved out. He was accompanied by Luttwitz, a General who had quarrelled with Noske, and Trebitsch Lincoln, a renegade Englishman who had been imprisoned for treason. But the Trades Union at that time possessed a great deal of power, and they said: " All right, we will declare a general strike," and they did. For a whole week life was very unpleasant—no food, no water, no light, no servants, no trams, no buses, no posts, no nothing. The whole world stopped. We were fed because the Admiral and I had a little forethought and we had got food from Cologne as a reserve sufficient to last for 30 days. We got the water turned on in two days. If ever you hear that there is going to be a revolution, go and fill your baths with water, because you want water more than anything else. Nothing else much matters. Then the Trades Union said to Kapp: " We will declare the strike off if you march the troops out of Berlin and do various other things," and on the Thursday afternoon the troops were formed up and marched off. There was trouble from the crowd and 10, 15 or 20 people were killed outside the Hotel Adlon when these troops marched out to Doberitz. The next morning a car drove in with four officers; an armoured car opened fire on them and a lot of people were killed. The French Embassy is shown in the photograph and, curiously enough, a number of Germans ran and took refuge there. French National Day, on the 14th July, the Tricolour was hoisted, and

a man climbed up and stole it. Then the fat was in the fire. A company of the Reichswehr were ordered to march past the French Embassy while General Nollet stood on the balcony and took the salute. The troops turned up late, very badly dressed in dirty fatigue clothes: they marched past the French Embassy, and immediately they had done so the whole company started singing "Deutschland über Alles."

This led to more recriminations, but it is unnecessary here to go into the matter.

The next slide shows a photograph of the 30-ft. high statue of Hindenburg in Berlin. People who subscribed to the War Loans were allowed to drive nails into this statue. If they subscribed copper, they drove in a copper nail; if silver, a silver nail; and if gold, a gold nail. You also see in this photograph four of our guns which the Germans captured at Le Cateau. One of our tasks was to take back from the Germans all the material they captured from us, and then we had to decide what to do with them. The War Office agreed with me that it was not dignified to bring back into England guns that had been captured in fair fight, and that I could have them destroyed and sell the scrap.

We did that and got a good deal of money for the material. Just before I left Berlin a 60-pounder gun, the only one lost in the retreat from Mons, turned up. Where it had been I do not know. It was a gun which fell into a ditch on the way back in the retreat from Mons I sent an officer to see that it was destroyed.

This slide shows a photograph of a 17-in. howitzer. That was the one made by Krupp's. It was a surprise even to the German Army. Von Kluck told me he did not know that they had been invented. They had very few to start with, but more were manufactured and I will show you a slide of their destruction.

The next photograph gives a very good idea of the damage done by these 17-in. howitzers at Maubeuge.

Forty-two of these 17-in. howitzers were destroyed and you see in the photograph the destruction of their carriages as well.

The next photograph illustrates one of the odd jobs that we had to do. It shows some Russian guns interned at Lötzen when the Bolshevists came to the German frontier in 1920.

There were, so far as I remember, 124 of these guns.

When I saw them I was uncertain as to the ownership, and thought that they ought to remain in a state of neutrality; but one fine day the Russians sent down a ship and took them back. I was told that we had had an order to destroy all that material and that I had not done it. The German Government were informed by us that the Russians were loading the "Carl Marx" and requested them to stop it, but they did not do so and the ship sailed.

This slide shows two British howitzers that were given to the Russians in 1915. They went through the war; then went back to Moscow; then came down to Germany with the 124 guns shown in the last slide, and were taken back to Russia in the "Carl Marx."

Now I come to some photographs that are more in the Admiral's province than mine. The first photo I show you is Heligoland being handed over to Germany by England in 1899.

This slide gives you a very good bird's-eye view of the island. The task of the Naval Commission was to do away with the whole of the breakwater, the whole of the submarine dock, everything on the foreshore, the guns on the top and the buildings down below; and the photographs I will now show you will indicate that they have done their work very thoroughly.

The next slide shows the German Fleet passing Heligoland during the war. I understand the Germans spent £36,000,000 on fortifying Heligoland, and it fired only one gun during the war, and that was one 6-in. gun fired at H.M.S. "Aurora." True, the Germans used it as a harbour for their submarines, and they probably thought the money spent on it was worth it.

The next slide shows the Kaiser going through the tunnel in Heligoland and making his inspection. This tunnel was subsequently destroyed by the Naval Commission.

The first of the next two slides shows the Kaiser considering the removal of a portion of rock which was in the line of fire of the guns.

The second slide shows the rock with its head removed but with an Iron Cross installed, presumably because it had lost its head for the Fatherland.

The next slide shows the submarine harbour at Heligoland full of submarines.

This slide shows the "Deutschland" returning from America.

The next few slides will give you an idea of the kind of destruction that was carried out at Heligoland. In the first slide you will see the 14-in. guns being cut up and the destruction of the gun-racers. The next slides show the submarine dock as it appeared when it was nearly finished; then how it appeared when a commencement had been made to blow it up, and then how it appeared when it was finished. This slide shows you the breakwater in course of destruction, and the next one the breakwater completely destroyed. I understand that the winter gales have completely finished the destruction on the foreshore.

These slides show Admiral Sir Edward Charlton and the Flag Officer and the "Danae" in dock with the destroyers "Windsor" and "Wessex" at Brunsbüttel. On the outer gates appear the badge of William II., and the date July, 1914, when it was opened.

In Heligoland the barracks were 60 ft. below ground. The walls were dug away and four pillars left supporting the roof. Charges were placed in these and the roofs then fell in.

I will conclude my lecture by showing a few photographs of men connected with the war. First of all, there is Tirpitz, one of the chief causes of the war as some people say. Then there is Bethman-Hollweg, of the "scrap of paper" fame.

Then there is Von Spee. I might tell you a story about him.

After he had sunk Admiral Cradock he went into Valparaiso, where a dinner was given to him. The room was decorated with flowers. At the end of it a German got up and said: "I wish to drink perdition to Admiral Cradock and his men." Von Spee replied: "I forbid my officers to drink to that toast. The Admiral died like a seaman and a gallant opponent." Then, pointing to the flowers, he said: "You may want these things to put over my grave. The British Navy never forgive." Then there is a photo of Von Moltke who, when he was asked to take command by the Kaiser, said: "It is too big a job for me; I cannot do it." But the Kaiser replied: "You have me behind you." Then there is a photograph of Falkenhayn, one of the people chiefly responsible for the war, who was eventually succeeded by Ludendorff. The next photo is of Von Kluck, who is now 75. A hard fighting soldier, I had a conversation with him, and I said to him: "May I quote what you have said, or may it be included in a book which is being written by a General who fought against you, namely, that you had a great admiration for our first six Divisions?" He said: "You may say so; I have already said it in my own book." He said: "I looked on it as the wonderful kernel of a great army. Will you also tell everybody that I have enormous admiration for the way in which the retreat was carried out from Mons. I tried to outflank them many a day and I absolutely failed." I also asked him: "Why did not you come back at us after the Aisne?" He said: "How could we? You had 100 rounds a gun to our one." "Oh," I said, "General, we were told that you had the hundred and we had the one." He replied: "I wish I had known it."

Finally I show you photographs of Lenin and Trotsky. The reason I have included them is that it was Ludendorff's idea for some years that England, France and Germany should send a combined army to fight Russia. Ludendorff was expounding the above theory to one of my officers when the latter remarked: "But you sent them there yourself." Ludendorff replied: "I would cut off my right hand now if I could alter what I have done."

Ladies and Gentlemen, that is all I have to say and I hope I have not been too long in saying it; at any rate, it has the merit of being the truth.

DISCUSSION.

THE CHAIRMAN: Ladies and Gentlemen,—Speaking for myself, and I believe for everybody present, I am sure I may say that we have had one of the most interesting afternoons that we have ever had in listening to this lecture by Sir Francis Bingham. It has been the means of bringing to our notice not only the immense amount of work which has been done by the Commission, but it has shown, in a way I think has never been shown to us before, what England was confronted with during the Great War—an extraordinarily powerful organisation behind a brave enemy. I think we will all learn the lesson from it that if we ever have to go to war again—which none of us desire—it is not the slightest

use doing so unless we have a better and larger productive organisation than we have seen illustrated to-day in this lecture. I now have much pleasure in proposing a hearty vote of thanks to Sir Francis for his lecture, and I hope he will come again and give us another one quite as good—if that is possible—as the one he has given us this afternoon.

General Sir Edmund Barrow, G.C.I.E.: Ladies and Gentlemen,—I have much pleasure in seconding the vote of thanks, which I am sure will be joined in, not only by those who have had the pleasure of listening to the lecture this afternoon, but all the members who will subsequently have the opportunity of reading it when it is printed in the *Journal*.

The resolution of thanks was then put and carried with acclamation.

THE ISLAND OF SABA.

By Lieut.-Colonel P. T. Westmorland, C.M.G., D.S.O.

READERS of the *Journal* will probably be interested in the following notes regarding the island of Saba, a reproduction of the painting of which, by Mr. G. Lacy Good of H.M.S. "Martin," off that island in 1893, and presented by him to the R.U.S.I., appeared in the August number.

Saba is a West Indian island belonging to the Dutch, and with St. Eustatius, another island a few miles to the S.E., was colonised by them in 1634. These two islands are situated in the same latitude as Jamaica (about 17° N.) and some 10° east of that island.

Saba has an area of about five square miles, and contains some 450 inhabitants. The rugged peaks of the island culminate in a crater about 1,300 feet above sea-level, and it is *inside* this crater that the inhabitants live—the town being called "Bottom." There are no roads in the island and the town of Bottom is reached by a flight of rough steps hewn out of the rock and called collectively the Ladder.

The curious feature of the island is that the only industry is that of shipbuilding. The boats are built inside the crater and, when finished, lowered down to the sea. There are no trees in the island, all the timber as well as iron and cordage being imported, and yet these boats and small craft are famous all over the Windward Islands. Another curious thing is that the inhabitants speak English as their native tongue. The majority of the population is white, and of the "good old fashioned kind, with blue eyes, freckled, sandy complexion and flaxen hair," writes Ober, an American ornithologist and traveller, in his "Camps in the Caribees" (1879 and 1884).

The late Sir Frederick Treves, in his interesting book "The Cradle of the Deep," calls the island "Saba the Astonishing," and says: "Possessing no harbour, nor anything approaching the same, Saba has yet a harbour-master among its high officials. . . . . The only town in Saba is on the mountain top and, being so placed, it is called Bottom. In this nomenclature the founders of the colony have evidently followed the weaver in *A Midsummer Night's Dream* who, speaking of his vision says, 'it shall be called Bottom's Dream, because it hath no bottom.' Now the city of Bottom can hardly be said, in the terms even of the speculative builder, to occupy an eligible site, for it is placed inside the crater. If the citizens wish to gaze upon the sea they must climb to the rim of the crater, as flies would crawl to the edge of a tea cup, and look over. . . . . It is to be noted that provisions and goods destined for Bottom have to be brought up the Ladder, so that if one

of the fair haired maidens ordered a grand piano, it would be delivered to her by that particular route. . . . . The island has, indeed, except in the matter of size, no more facilities for the development of the shipbuilding trade than has a rock lighthouse. The production of ships from craters is hardly less wonderful than the gathering of grapes from thorns or figs from thistles."

The island possesses no springs. *The West Indian Pilot* says that "the inhabitants chiefly depend on rain water caught in tanks."

The place is well worth a visit, as one of the minor wonders of the world.

NAVAL NOTES.

GREAT BRITAIN.

The Royal Naval Review.

A Review of the Fleets in home waters was held by His Majesty the King on Saturday, 26th July, at Spithead. Accompanied by the Prince of Wales and the Duke of Connaught, the King arrived at Portsmouth overnight and slept on board the "Victoria and Albert." The Royal yacht left harbour shortly before 2 p.m. and steamed through the principal lines of the Fleet, a Royal salute being fired on her arrival. The Trinity yacht "Patricia," in accordance with custom, preceded her, and immediately behind the Royal yacht was the "Enchantress," Admiralty yacht, which was temporarily commissioned on 19th July by Captain K. E. L. Creighton, M.V.O., to accommodate the Board of Admiralty and their principal guests. Dominion and Foreign visitors, Members of Parliament, and others inspected the Fleet from the minelayer "Princess Margaret," Captain R. A. Hornell, D.S.O., and from the auxiliary vessels "Harlequin," "Nimble" and "Pert."

The number of vessels present at Spithead was 193, composed of 10 battleships, the battle-cruiser "Tiger," nine light cruisers, ten flotilla leaders, 88 destroyers, 24 submarines, two aircraft-carriers, three destroyer and five submarine depôt-ships or tenders, two sloops, one fleet repair ship, one surveying vessel, 32 twin-screw minesweepers, and five paddle mine-sweepers. At the last great naval inspection at Spithead, just ten years earlier, when King George led the mobilised Home Fleets to sea past the Nab lightship under Admiral Sir George Callaghan's command, there were 205 units present, or only twelve more, but the proportion of heavy ships was much greater, there being 55 battleships, four battle-cruisers, and 55 cruisers and light cruisers. Several aeroplanes of the Fleet Air Arm were present on this occasion, operating from a shore station, in contrast to the seaplanes of the R.N.A.S., which in 1914 had moorings laid down for them afloat. The aeroplanes not only escorted the King to and from the Fleet, but also carried out aerobatics over the lines of the ships.

Fleet Re-Distribution.

The Naval Review marked the end of the active career afloat of Admiral Sir John M. de Robeck, Commander-in-Chief of the Atlantic Fleet, whose flag was hauled down in the "Queen Elizabeth" on 15th August, Admiral Sir Henry Oliver hoisting his flag in the "Revenge" as his successor. Concurrently with this change, a transfer took place of certain of the squadrons and flotillas of the Atlantic Fleet to the Mediterranean, in accordance with the altered strategic situation, since the former distribution was fixed early in 1919, before peace had been signed. Four battleships of the "Queen Elizabeth" type (all except the "Warspite" which is refitting) were allocated to form the First Battle Squadron, Mediterranean Fleet. The four battleships of the "Iron Duke" type, already in the Mediterranean as the Fourth Battle Squadron, were ordered to be renamed the Third Battle Squadron on 1st November. The First Cruiser Squadron was to pass under the Mediterranean command on its return from the world cruise, to date 9th October. The "Coventry" (flagship of the Rear-Admiral (D)), and Second and Fifth Destroyer Flotillas, were likewise transferred, and left their

home ports for the Mediterranean on 23rd September. The aircraft-carrier "Hermes," destroyer depôt-ship "Greenwich," and fleet repair ship "Assistance" were also ordered to the Mediterranean on completing refits. The Second Submarine Flotilla will be transferred in January, 1925.

Reserve Fleet Exercises.

Following the Naval Review also, a series of exercises was carried out in the Channel by vessels of the Reserve Fleet, which had been specially mobilised under the command of Vice-Admiral the Hon. Victor Stanley, C.B., M.V.O. The vessels taking part in the exercises numbered 92, made up as follows:—"Centurion" (flagship of Vice-Admiral); "Woolwich," destroyer depôt-ship; 1st Nore Flotilla, "Grenville," Captain L. L. P. Willan, and eight destroyers; 2nd Nore Flotilla, "Abdiel," Captain A. M. Lecky, D.S.O. and eight destroyers; 1st Portsmouth Flotilla, "Seymour," Captain C. St. C. Cameron, C.B.E., and eight destroyers; 2nd Portsmouth Flotilla, "Nimrod," Captain E. McC. W. Lawrie, D.S.O., and eight destroyers; 1st Devonport Flotilla, "Douglas," Captain L. G. E. Crabbe, D.S.O., and eight destroyers; 2nd Devonport Flotilla, "Saumarez," Captain J. C. Tovey, D.S.O., and eight destroyers; "Badminton," flagship of Commodore T. J. S. Lyne, D.S.O., Commanding Minesweeping Flotillas; 3rd Flotilla, "Pangbourne," and six sweepers; 4th Flotilla, "Tralee" and six sweepers; 5th Flotilla, "Rugby" and six sweepers; 6th Flotilla, "Selkirk" and seven sweepers; and 7th Flotilla, "Harpenden" and four sweepers; with the "Sherborne" as spare ship. For distinguishing purposes, these Reserve Fleet destroyers and minesweepers had special funnel markings during the exercises. The 1st Nore vessels had a white band on foremost funnel; 2nd Nore, a white band on aftermost funnel; the 1st Portsmouth, a red band on foremost funnel; 2nd Portsmouth, a red band on aftermost funnel; the 1st Devonport had a black band on foremost funnel; 2nd Devonport, a black band on aftermost funnel. Double-width bands were worn by the ships of Captains (D) and Divisional Commanders. Of the minesweeping flotillas, the 3rd had two white bands; 4th, one white band; 5th, two red bands; 6th, one red band; but there were no markings on the 7th Flotilla, which was composed of paddle minesweepers. After the Naval Review, the "Centurion," "Woolwich," and destroyer flotillas went to Torbay to carry out the exercise programme; the 3rd and 4th Flotillas to Portland; the 6th to Portsmouth; and the 5th and 7th to Margate Roads.

World Cruise Completed.

On 29th September, the ten-months' world cruise of the Special Service Squadron under Vice-Admiral Sir Frederick Field was concluded by the arrival of the ships at their home ports, the "Hood," "Delhi" and "Dauntless" going to Devonport; the "Repulse" and "Adelaide" to Portsmouth; and the "Danae" and "Dragon" to Sheerness. Following an enthusiastic reception at Vancouver, Victoria, and Esquimalt, the ships left on 5th July for San Francisco, where from 8th to 11th July they were most hospitably entertained by the American naval and civic authorities. It was after leaving San Francisco that the light cruisers under Rear-Admiral the Hon. Sir Hubert Brand parted company to make the voyage round South America, whereas the battle-cruisers and the "Adelaide" came through the Panama Canal. A Press report from the Balbao Heights zone of the Canal stated that in passing through the Canal the ships were handled perfectly, despite only a three-foot clearance of the sides. The visit of the Squadron to Halifax coincided with the celebration of the 175th birthday of that city. At

Toronto Vice-Admiral Field officially opened the Canadian National Exhibition and took the salute at a military parade. Meanwhile, the light cruisers also met with a cordial reception at South American ports. Their visit to Callao coincided with that of the Italian cruiser "Italia," which was on a commercial cruise with a trade exhibition on board.

Relative Naval Strength.

On 31st July figures were issued by the Parliamentary Secretary to the Admiralty, in reply to a question by Captain Viscount Curzon, C.B.E., V.D., R.N.V.R., M.P., showing the relative positions of the principal naval Powers in regard to cruisers, destroyers and submarines respectively. The figures are as follow :—

Built.

	British Empire.	United States.	Japan.	France.	Italy.
Cruisers	38	8	18	7	13
Destroyers	197	*291	74	41	56
Submarines	60	113	42	42	43

* Includes nine transferred to the Coastguard Service.

Building.

Cruisers	4	2	5	3	2
Destroyers	5	0	9	16	10
Submarines	7	9	11	13	4

Projected.

Cruisers	5*	8*	6*	2* 4†	2†
Destroyers	2*	0	17*	8*33†	16†
Submarines	0	1*	20*	10*37†	16†

* Authorised. † Not yet authorised.

The above figures are issued on the following assumptions :—

(*a*) That the efficient life of a light cruiser is 15 years.
That the efficient life of a destroyer is 12 years.
That the efficient life of a submarine is 10 years.

(*b*) That in the case of British vessels one year's war service is equivalent to two years' peace service.

Flag List Changes.

Several changes on the Flag List of the Royal Navy took place during the quarter. The retirement, at his own request, on 30th June, of Admiral Sir Hugh Evan-Thomas, K.C.B., K.C.M.G., M.V.O., LL.D., gave a step in rank to Vice-Admiral Sir Ernest Gaunt, K.C.B., K.B.E., C.M.G., Rear-Admiral Sir Richard Webb, K.C.M.G., C.B., and Captain Cecil Raikes, C.B.E. The last-named officer retired at his own request on promotion, whereby Captain John E. Cameron, C.B., M.V.O., became a Rear-Admiral on 1st July.

On 19th July the retirement of Vice-Admiral Sir Allen Hunt, K.C.B., C.S.I., gave promotion to Rear-Admiral E. B. Kiddle, C.B., and Captain Cyril S. Townsend, C.B.

On 31st July Admiral of the Fleet Sir Henry B. Jackson, G.C.B., K.C.V.O., F.R.S., LL.D., D.Litt., was placed on the retired list, and in consequence Admiral Sir Charles E. Madden, Bt., G.C.B., G.C.V.O., K.C.M.G., LL.D., was promoted to be Admiral of the Fleet. Vice-Admiral Sir Osmond Brock, K.C.B., K.C.M.G., K.C.V.O., Rear-Admiral Sir Rudolf Bentinck, K.C.M.G., C.B., and Captain Cecil M. Staveley, C.B., C.M.G., each received a step in rank on this date.

As from the next day (1st August), Admiral Sir Morgan Singer, K.C.B., K.C.V.O., retired at his own request, to facilitate the advancement of younger officers, and in consequence Vice-Admiral Sir Richard Phillimore, K.C.B., K.C.M.G., M.V.O., Rear-Admiral the Hon. Sir Algernon Boyle, K.C.B., C.M.G., M.V.O., and Captain John E. T. Harper, M.V.O., were each promoted to the next rank above. On 1st August, also, Vice-Admiral Kiddle retired at his own request, promoting Rear-Admiral Sir Edmund P. F. G. Grant, K.C.V.O., C.B., and Captain John D. Allen, C.B., respectively. Rear-Admiral Allen retired, at his own request, to date 2nd August, whereby Captain R. G. D. Dewar, C.B.E., was advanced to flag rank; and Rear-Admiral Dewar also retired at his own request, in consequence of which Captain Frank Larken, C.M.G., was promoted to Rear-Admiral.

On 1st September Vice-Admiral the Hon. Sir Algernon Boyle retired at his own request, whereby Rear-Admiral E. V. Underhill, C.B., and Captain E. A. Taylor, C.M.G., C.V.O., were promoted. Both the latter officers retired as from 2nd September, and in consequence Rear-Admiral H. L. Mawbey, C.B., C.V.O., was promoted to Vice-Admiral, and Captains W. R. Napier, C.M.G., D.S.O., and A. K. Macrorie, C.M.G., M.V.O., to Rear-Admiral. Rear-Admiral Macrorie retired on 3rd September, promoting Captain H. G. C. Somerville, C.B., D.S.O., to Rear-Admiral. The latter officer was placed on the retired list, at his own request, to date 4th September, and Captain H. W. Bowring, D.S.O., thus became a Rear-Admiral.

The last changes to be announced affected, by a coincidence, both the flag officers commanding the Special Service Squadron just at the time of their return from the world cruise. Vice-Admiral H. L. Mawbey, C.B., C.V.O., retired at his own request, to date 25th September, and in consequence Rear-Admiral (acting Vice-Admiral) Sir Frederick Field, K.C.B., C.M.G., was promoted to Vice-Admiral; and Captain R. M. Burmester, C.B., C.M.G., to Rear-Admiral. On 1st October Vice-Admiral E. F. Bruen, C.B., retired at his own request, and in consequence Rear-Admiral the Hon. Sir Hubert Brand, K.C.M.G., K.C.V.O., C.B., was promoted to Vice-Admiral. In accordance with the decision to reduce gradually the Flag List, no further promotion was made as a consequence of this last-named retirement.

Commands and Appointments.

On 4th July the Admiralty announced the selection of Rear-Admiral L. C. S. Woollcombe, C.B., M.V.O., to be Admiral-Superintendent of Devonport Dockyard, in succession to Rear-Admiral H. L. P. Heard, C.B., D.S.O., to date 1st November.

On 19th July two appointments to the reorganised Mediterranean Fleet were announced. Rear-Admiral Hugh D. R. Watson, C.B., C.V.O., C.B.E., was appointed Rear-Admiral Commanding the reconstituted Third Battle Squadron, Mediterranean Fleet, and Second-in-Command, Mediterranean, in lieu of a Vice-Admiral, to date 14th October. Rear-Admiral Watson's flag was to be flown in the battleship "Iron Duke," on the transfer of the flag of the Commander-in-Chief from that vessel to the "Queen Elizabeth." Rear-Admiral William W. Fisher, C.B., M.V.O., was appointed Rear-Admiral in the reconstituted First Battle Squadron, Mediterranean Fleet, to date 14th October. His flag was to fly in the battleship "Barham," formerly flagship of Vice-Admiral Sir E. S. Alexander-Sinclair, K.C.B., M.V.O.

A new appointment to the office of Hydrographer of the Navy, held since 1st September, 1919, by Vice-Admiral F. C. Learmonth, C.B., C.B.E., was announced on 6th August, to date 1st October. The officer chosen was Captain Henry P. Douglas, C.M.G., formerly commanding the surveying ships "Ormonde" and "Mutine," and Assistant-Hydrographer in 1919–21.

On 12th August the selection was announced of Rear-Admiral John W. L. McClintock, C.B., D.S.O., to be Rear-Admiral Commanding, Third Cruiser Squadron, in succession to Rear-Admiral Sir Alfred Chatfield, K.C.B., K.C.M.G., C.V.O., to date 11th November. On the same day, Rear-Admiral Robert N. Bax, C.B., becomes Director of the Mobilisation Department, Admiralty, in succession to Rear-Admiral McClintock.

Rear-Admiral Maurice S. Fitzmaurice, C.B., C.M.G., was in August selected to be Commander-in-Chief, Africa Station, in succession to Vice-Admiral Sir Rudolf Bentinck, K.C.M.G., C.B., to date 12th December; and Rear-Admiral Albert P. Addison, C.B., C.M.G., to be Rear-Admiral Commanding the Destroyer Flotillas of the Mediterranean Fleet, in succession to Rear-Admiral G. H. Baird, to date 1st September, and to assume command on date of appointment.

NAVAL OCCURRENCES.

The more important occurrences concerning the Royal Navy in the quarter under review are recorded above. In addition, the following took place in the period from 1st July to 30th September inclusive.

VISIT TO THE THAMES.—From 8th to 13th July the Fifth Destroyer Flotilla, under Captain E. O. B. S. Osborne, D.S.O., in the "Malcolm," visited the Thames, in accordance with a promise made in Parliament earlier in the year. The flotilla leader "Malcolm" and the destroyers "Vivacious" and "Voyager" were moored off Gravesend, the "Wryneck" and "Walrus" off Rosherville, and the "Vampire" and "Waterhen" off Greenhithe. They were open to the public, and gave search-light displays at night. The Mayor of Gravesend, Alderman Davis, and the Town Clerk and other officials, visited the "Malcolm."

VISIT OF SOVIET SLOOP.—On 25th July, the Soviet Union sloop "Vorovsky" arrived at Plymouth and exchanged salutes. This was the first official representative of the Russian Soviet Navy to visit a British port, and an Admiralty order directed that "the usual facilities" were to be accorded. The vessel had left Archangel in the previous month for Vladivostok, and was to call at the British ports of Plymouth, Aden, Colombo, Singapore and Hong Kong.

FLEET AIR ARM COMMISSIONS.—A fleet order, dated 25th July, stated that, in order to ensure the status and authority of attached naval officers under Air Force law while under training, or at such times during their attachment when they may have to command R.A.F. *personnel* not under the Naval Discipline Act, they were to be given temporary R.A.F. commissions while attached. These commissions will not in any way whatsoever affect their naval or marine status or authority.

PLYMOUTH MEMORIAL UNVEILED.—The second of the three Naval War Memorials at each of the principal home ports was unveiled on the morning of 29th July on Plymouth Hoe by Sub-Lieutenant H.R.H. Prince George, R.N., who landed for the purpose from the destroyer "Ursula," in which he was serving in connection with the Reserve Fleet exercises. The memorial is the same in design and construction as that unveiled at Chatham on 26th April, by Captain H.R.H. the Prince of Wales, R.N., and that erected on Southsea Common for the Portsmouth Command. The last-named was to be unveiled by Commander

H.R.H. the Duke of York, R.N., on 15th October, in accordance with the wish of King George that each of his sons who had had a naval training should unveil one of the monuments.

AUSTRALIAN NAVAL DEFENCE.—On 30th July, an Australian Government bill to construct two 10,000-ton cruisers passed all stages in the House of Representatives. An amendment that both vessels should be built in Australia was rejected. One ship will be ordered in Great Britain, and the other built at Cockatoo Island Dockyard, Sydney. The money grants were passed by the Senate on 22nd August, and on 5th September, Mr. Bruce, the Premier, announced that the Government had decided to invite tenders both from England and Australia, the English tenders being for (1) the construction of one cruiser in British yards; (2) the construction of both in Great Britain; and (3) the construction of one in Great Britain and one in Australia.

LAST WAR-TIME DESTROYER.—With the commissioning on 9th August, at Chatham, for the Fourth Flotilla, Mediterranean Fleet, of the "Whitehall," all the destroyers left over from war-time programmes were completed. During hostilities, 255 destroyers, including those taken over from foreign Governments, were completed, and at the Armistice 97 more were under construction. Contracts for 40 were cancelled, and of the other 57, there were 41 finished by October, 1919, but the remaining 16 were transferred from the private shipyards to the public dockyards, where the limited funds voted enabled only slow progress to be made with them.

SUBMARINE'S INDEPENDENT CRUISE.—Submarine "K.26," Commander G. P. Thomson, O.B.E., returned to Portsmouth on 12th August, on the conclusion of an independent cruise of about 20,000 miles, through the Mediterranean and Red Sea to Singapore and back. She left Portsmouth on January 2nd, and during the voyage her crew lived aboard without any assistance from a parent ship, everything the vessel required being carried in her. She experienced a monsoon in the Indian Ocean and a severe thunderstorm at Singapore.

EAST INDIES FLAGSHIP.—On 17th August, the "Southampton," late flagship in the East Indies, arrived at Sheerness, having been relieved at Colombo in July by the "Chatham," formerly New Zealand flagship. The "Southampton" was ordered to pay off into Material Reserve. She had had twelve years' continuous service, and was in the Grand Fleet all through the war, being present in all the great actions.

BOY SEAMAN TO CAPTAIN, R.N.—On 21st August, Captain T. J. S. Lyne, D.S.O., relinquished the rank of Commodore, 2nd class, which he had held while in command of the Minesweeping Flotillas at the Naval Review and the Fleet exercises, and was succeeded in command of the Central Reserve of Minesweepers at Sheerness by Captain B. W. Barrow, D.S.O. Next day, Captain Lyne took command of the "Impregnable," and thus achieved the distinction of being Captain of the same establishment in which he first entered the Navy as a boy seaman forty years earlier.

CLASSIFICATION OF WARSHIPS.—By a Fleet Order, dated 22nd August, the Admiralty directed that the use of the term "Light Cruiser Squadron" was to be discontinued. These squadrons are to be known in future as "Cruiser Squadrons." The former term was adopted in 1913.

ADVANCED ENGINEER SPECIALISTS.—The list of officers who completed the advanced course in engineering at the R.N. College, Greenwich, on 3rd July, and

who were notified on 22nd August, as having gained the qualification of (E †), included the name of Engineer-Lieutenant A. F. Dellbridge, who was awarded a prize of 20*l.* for obtaining the highest marks in the final examination. This officer was the first of those promoted from the grade of Mate (E) to pass the advanced course. On 28th July he was appointed to the staff at Portsmouth Dockyard as Assistant to the Engineer Manager for armament work.

SLOOP FOR EAST INDIES.—On 24th July the sloop "Lupin" was commissioned at Sheerness by Commander R. N. Suter, D.S.O., as an additional unit on the East Indies Station. She left on 9th August and arrived at Kamaran on 6th September and Aden on 9th September.

CRUISER FOR CHINA.—In August, the cruiser "Vindictive," which was placed in dockyard hands at Chatham last year, was ordered to be commissioned on completion for the China Station to relieve the "Diomede." Begun in 1916 as the "Cavendish," a sister-ship of the "Hawkins," the vessel was taken for duty as an aircraft-carrier in 1918, renamed the "Vindictive" (after the ship sunk at Zeebrügge), and certain of her guns surrendered. She has now been reconditioned for cruiser service.

"M" CLASS SUBMARINES.—The submarine monitors of the "M" class, each of which carries a 12-in. gun, were withdrawn from the First Flotilla, Atlantic Fleet, in August, and their places taken by steam-driven vessels of the "K" type. M.1 and M.2 were taken in hand for repairs at Chatham, and M.3 joined the Portsmouth Submarine Flotilla.

NEW SUBMARINE FINISHED.—The newly-completed submarine "L.54," built by Messrs. Denny Brothers, Dumbarton, and transferred after the war to Devonport Dockyard, was commissioned on 29th August by Lieutenant-Commander the Hon. W. S. Carson for service in the Second Flotilla, Atlantic Fleet. She differs from earlier vessels of the "L" type in having two 4-in. guns instead of one, and six torpedo tubes instead of four.

THE NAVAL STAFF QUALIFICATION.—In August, a change was announced in the manner of distinguishing those officers of the Royal Navy and Royal Marines who had qualified in staff duties. Instead of the initials "W.S.," denoting officers who were qualified and eligible for a War Staff appointment, the notation "P.S.C.," signifying that an officer had passed through the staff course at the R.N. Staff College, Greenwich, was adopted. In the case of a marine officer, the notation will be "P.S.C. (N.)" or "P.S.C. (M.)," to denote that he has passed the staff course at the Naval or the Military Staff College respectively.

ATLANTIC FLEET'S CRUISE.—On 1st September, the ships of the Atlantic Fleet left their home ports for Portland to make their first cruise under the command of Admiral Sir Henry Oliver. On 16th September they arrived at Invergordon, which was to be their base until 6th October, when the squadrons and flotillas were to exercise independently for five weeks before returning to Portland. The units taking part in these operations were the 2nd Battle Squadron, 2nd Cruiser Squadron, 1st Submarine Flotilla; 1st, 6th and 9th Destroyer Flotillas and the "Argus," "Princess Margaret," "Snapdragon," "Telemachus," "Diligence" and "Tower."

MEDITERRANEAN CRUISES.—A full programme of cruising was carried out during the quarter by the Mediterranean Fleet. Returning from its voyage into the Levant on 8th July, during which it visited Beirut, Lemnos, Alexandria, Jaffa, and various other ports, the Fleet left Malta again on 17th July for Italian waters, and made calls at Naples, Cattaro, Gravosa, Spalato, Pola, Venice (Port Lido),

Genoa, Castellamare, and certain other places, returning to Malta on 30th August. Leaving again on 8th September, the squadrons and flotillas proceeded to Spain, and visited Tarragona, Barcelona, Valencia, Alicante, Malaga and Cartagena, arriving on 25th September at Gibraltar to await the forces which were being transferred from the Atlantic.

LANDING AT SHANGHAI.—On the morning of 10th September, Rear-Admiral Murray Anderson, C.B., C.M.G., M.V.O., Senior Naval Officer on the Yangtse, landed in command of an international naval force at Shanghai, to protect the foreign settlement there from a possible influx of defeated soldiers owing to the civil war in China. The force was reported to be composed of 360 British, 400 Japanese, 250 Americans, and 100 Italians. The landing was effected without disturbance, being accepted as a natural precaution for the maintenance of neutrality and the protection of foreign life and property. In September, also, Admiral Sir Arthur Leveson, K.C.B., Commander-in-Chief in China, transferred his flag from the cruiser "Hawkins" to the sloop "Petersfield," which arrived at Port Arthur on 25th September.

NEW SHORE WIRELESS SERVICE.—In September, the kit to be maintained by men of the new Shore Wireless Service was specified in a Fleet Order. This Service was constituted on 20th June, 1924, consequent on the transfer of the Coastguard to the Board of Trade, and is composed of the *personnel* employed in manning the Naval W/T and D/F Stations at home. It is to be kept up to strength by the admission from time to time of volunteers from the wireless *personnel* of the Fleet. Its constitution includes Senior Chief Officers, S.W.S. (who rank with but after lieutenants, R.N.); Chief Officers, S.W.S., of six years' seniority (ranking with but after commissioned officers from warrant rank, R.N.); and Chief Officers, S.W.S. (ranking with but after warrant officers, R.N.). The ratings are petty officer telegraphists, leading telegraphists, and telegraphists, replacing those of boatman, leading boatman and petty officer W/T in the Wireless Force.

BADGES OF THE S.W.S.—The cap ribbon to be worn by ratings in the Shore Wireless Service is to bear the lettering "R.N. Shore Wireless," with the crown between the words "shore" and "wireless." A free issue of two cap ribbons, one "S.W.S." badge in gold, two in red, and two in blue, is to be made to each man on joining the Service. Ratings not dressed as seamen are to be credited with kit upkeep allowance at the rate of £2 quarterly, and those dressed as seamen at the rate of £1 13s. quarterly. These rates will be revised from time to time in the same way as for the active service, to correspond with fluctuations in the issuing prices of clothing.

AUSTRALIAN NAVAL TRAINING.—To further the sea-training of its citizen Naval Reserve, the Australian Government has adopted a scheme for utilising its six pre-war destroyers of the "river" type as training ships in the principal seaports. On 11th August the "Warrego" arrived at Brisbane; on 21st September the "Huon" likewise left Sydney for Hobart, Tasmania; and the "Yarra" was ordered to Geelong.

CHINA SUBMARINE FLOTILLA.—In September, the Admiralty decided that the submarines in reserve on the China Station were to be maintained in full commission. There had formerly been six vessels in full commission, and six in reserve, with care-and-maintenance parties, at Hong Kong. In pursuance of this decision, two additional submarine crews were sent out from England early in October by freight steamer, and Lieutenants L. B. A. Majendie and W. L. Berridge were appointed to the "Titania" as from 15th October to command submarines attached to her.

H.M.S. "FROBISHER" COMPLETED.—The cruiser "Frobisher" was completed early in September and commissioned on 29th September by Captain C. E. Turle, D.S.O., formerly Assistant Director of the Staff College at Greenwich, for duty as flagship of the First Cruiser Squadron, in succession to the "Delhi." The "Frobisher" had been eight years in hand, having been laid down at Devonport in August, 1916; but, owing to the lack of financial provision, little or no progress was made with her for some time after the Armistice.

H.M.S. "SUFFOLK" BEGUN.—The first keel-plate of H.M.S. "Suffolk" was formally laid in Portsmouth Dockyard on 30th September by Lady Fremantle, wife of Admiral Sir Sydney Fremantle, K.C.B., M.V.O., the Commander-in-Chief. The "Suffolk" is the first of the five cruisers authorised in the 1924–25 Navy Estimates, tenders for which were accepted in April last. The "Suffolk" was laid down on the slip from which the "Effingham," which is still completing afloat, was launched on 8th June, 1921.

FOREIGN NAVIES.

ARGENTINA.

BATTLESHIP TO REFIT.—In July, the battleship "Rivadavia," one of the two launched in 1911 for the Argentine Navy by American shipyards, was ordered to go to Boston to be overhauled and fitted to burn oil fuel only.

EX-GERMAN MINESWEEPERS.—Ten ex-German minesweepers were sold by the firm of Hugo Stinnes to the Argentine Government. All war material and warlike characteristics were removed from these vessels and surrendered to the Allies before they were disposed of.

TRAINING SHIP AT MALTA.—The training ship "Presidente Sarmiento" arrived at Malta on 18th August, to remain for five days before proceeding to Naples and Marseilles.

BRAZIL.

NEW PROGRAMME.—The Army and Navy Committee of the Chamber of Deputies reported favourably in June last on a recommendation that Brazil should acquire a cruiser of 10,000 tons, five destroyers, five submarines, and certain auxiliary craft to replace obsolete units.

CHILE.

NEW MINISTRY.—A new Government was formed at Valparaiso on 12th September, with General Altamirano, General Bennett, and Admiral Nef forming the Military Council. In this administration, Admiral Luis Gomez Carreno was appointed Minister for War and Marine.

FRANCE.

DESTROYERS LAUNCHED.—The destroyer "Orage" was launched on 30th August. She is of 1,378 tons. Two vessels of a larger 2,400-ton type, the "Chacal" and the "Leopard," have also been launched.

NEW SUBMARINES.—On 19th July, the submarine "Réquin" was launched at Cherbourg. The following description is supplied by *The Times* correspondent at Paris: "The 'Réquin' is one of the first of the new series of submarines provided for in the recently adopted French naval programme. Those which are to follow are the 'Souffleur,' the 'Narval,' and the 'Calman,' which are being constructed at Cherbourg; the 'Phoque' and the 'Marsouin,' which are being built at Brest; and the 'Dauphin' and the 'Espadon,' which are on the stocks

at Toulon. These submarines will have a displacement of 1,148 tons on the surface and 1,440 tons submerged; a length of 246 ft.; a width of 23 ft.; and a draught of 16 ft. 6 in. They will be fitted with two Diesel type engines, each of 1,450 h.p., with which a surface speed of 16 knots an hour can be maintained. An electric motor of 1,800 h.p. will give them a speed of 10 knots when submerged. On the surface they will have a range of action of 7,000 miles at nine knots and under the surface a range of 105 miles at five knots. The armament will consist of eight 550 mm. torpedo tubes and one 100 mm. gun."

MEDITERRANEAN MANŒUVRES.—Manœuvres of the French Fleet in the Mediterranean began on 9th September, when the ships left Toulon for Corsican waters. M. Herriot, the Premier, visited the Fleet and gave a banquet on board the flagship "Provence," from which he witnessed the first portion of the exercises. The programme for the main exercises, drawn up by Admiral Dumesnil, the Commander-in-Chief, was as follows:—15th September, squadron leaves Toulon, and will be attacked by submarine and torpedo-boat flotillas; 16th, various manœuvres, the squadron anchoring in the evening at Ajaccio; 17th, squadron will remain at Ajaccio; 18th, submarine attack on light cruisers; 19th, departure from Ajaccio, and combined manœuvres during the return voyage to Toulon, where the squadron will be reformed with a view to the cruise which is to be made from 15th October to 15th November along the coasts of Algeria and Tunis.

GREECE.

WORK AT COWES.—Messrs. J. Samuel White and Co., Ltd., of East Cowes, who are engaged on refitting the Greek destroyers "Aetos," "Jerax," "Leon" and "Panther," have received an order for six 45-ft. steam pinnaces for the Greek Government. In the destroyers, the firm are supplying and installing new boilers and boiler-room auxiliaries, completely overhauling the machinery, carrying out considerable structural alterations to the hulls, and reconstructing the bunkers for carrying oil fuel instead of coal.

BRITISH ADVICE REQUESTED.—In September, the Greek Government applied for the services of a British Admiral to study and report on the requirements of the Greek Fleet, with a view to the appointment of a small Naval Mission under similar conditions to those accepted by General Guillaumat for a French Military Mission.

HOLLAND.

DEATH OF ADMIRAL JONKHEER ROELL.—On 10th July the death occurred at the Hague of Admiral Jonkheer J. A. Roell, the well-known Dutch naval officer and statesman. Born on 8th August, 1838, at Amsterdam, he was sent to the Royal Naval College of Breda, and entered the Dutch Navy in 1854. He had been attached to the Dutch Court since 1869 as Naval Aide-de-Camp. In 1897 he became Minister of the Navy, and held the portfolio for four years. During this period he was able to strengthen the naval defences very considerably, especially in the Dutch East and West Indies, and also improved the position of the *personnel* of the Navy. He was a member of the Dutch delegation at the Hague Peace Conference of 1907 and the London Naval Conference of 1908. In 1909 he was Chairman of the official Dutch Committee which, during the Hudson-Fulton celebrations, offered to the United States a duplicate of Hudson's ship, the "Half Moon."

ITALY.

CRUISERS' OVERSEA VOYAGE.—The Prince of Piedmont left Naples in the "San Giorgio," which, with her sister-ship the "San Marco," has been sent on

an instructional and "showing the flag" cruise to South American ports. The ships called at Rio de Janeiro, Buenos Aires, Montevideo and Bahia Blanca, arriving at the last-named place on 12th September.

ROYAL NAVAL REVIEW.—On 7th September the King of Italy, on board the Admiralty yacht "Archimede," reviewed the Italian Fleet of over seventy units in the Bay of Naples, passing down between five lines of battleships, cruisers, destroyers and other craft. After the review, His Majesty went on board the "Conte di Cavour," the flagship of Admiral Acton, Commander-in-Chief, where luncheon was served to a party which included the Ministers of Marine and War. Later in the day, the King inspected the dockyard and other naval establishments.

FLEET MANŒUVRES.—For the first time since 1910, grand naval manœuvres of the Italian Fleet were held during August. Tactical exercises and target practice took place up to 20th August, and a series of strategical operations from 20th to 26th August. Admiral Acton was in supreme command, and the first or defensive force was under Admiral Lovatelli, the second or attacking force being under Admiral Conz. Each force had two battleships, two cruisers, a destroyer flotilla, a submarine flotilla, and a flotilla of submarine chasers, with an aircraft group.

GENERAL SCHEME.—The scheme for the manœuvres was thus described by the *Times'* Correspondent at Rome :—"The scheme which is to be carried out has been devised to illustrate the most important problem which would now present itself to Italy in the event of war with one or more of the Mediterranean Powers; and to give an opportunity for the practice of efficient co-operation between those two arms of naval warfare which have developed so enormously since the last Italian manœuvres, that is to say, submarines and aircraft, with the main forces.

"Before the war Italy's naval policy was concentrated in the Adriatic, and the 1910 manœuvres were occupied by the study of an eventual hostile bombardment of Ancona and the defence of Venice. With the disappearance of Austria-Hungary as a naval Power the Mediterranean position has completely changed in so far as Italy is concerned, and her attention is engaged in another direction. In the event of war the Italian Navy's most important task would be to secure the communications between Italy and her African colonies, upon whom she would be forced to depend for a large part of her supplies and reinforcements.

"The scheme for the manœuvres, drawn up by the General Staff, resembles in general lines that carried out by the British Navy last spring, when the security of the communications between Gibraltar, Malta, Egypt, and Suez was studied. A convoy of ships bringing reinforcements and supplies to Italy is said to have arrived at Tobruk, on the coast of Cirenaica, and is to head for Taranto and the Sicilian ports. The main force of the enemy fleet is said to lie in the Western Mediterranean, held in check by the Italian fleet, and a hostile force is lying in the Eastern Mediterranean, presumably off the coast of Greece, and is attempting to prevent the convoy reaching its destination. The problem presented to the commander of the Italian fleet is, admitting that the hostile force in the Western Mediterranean is equal in size and strength to his own, to dispose of the small force which remains at his disposition in such a manner as to assure the safe passage of the convoy.

"A subsidiary question upon which the progress of the manœuvres is expected to furnish valuable information is that of the position of the new naval base, the construction of which has been rendered necessary by the recent abandonment of Maddalena, opinion on this point being at present divided between the southern coast of Sardinia and Sicily."

JAPAN.

AIR ARM EXPANSION.—On 7th July, speaking in the Diet, Admiral Takarabe, the Minister of Marine, said that the world situation demanded that Japan should further expand the air forces attached to her Navy. He recommended, provided the necessary funds could be appropriated without unduly swelling the Estimate, the establishment of eleven squadrons in addition to those already embodied in the programme.

UNITED STATES.

NEW SUBMARINE.—Submarine "V.1," the largest ever built for the American Navy, was launched at the Navy Yard, Portsmouth, in July. Her surface displacement is 2,164 tons, surface speed 21 knots, submerged speed 9 knots, and her complement seven officers and 80 men.

"DEFENCE DAY."—12th September was observed in all parts of the United States as "Defence Day." In Washington a parade of the garrison troops, volunteers of the National Guard, and patriotic societies was reviewed by the President, and the airmen who had flown round the world were present.

GUN ELEVATION.—President Coolidge let it become known in August that he disapproves of any increase in the maximum elevation of guns in United States battleships, fearing that such a step would stimulate competitive naval construction abroad at a time when Europe needs its resources for rehabilitation purposes.

NEW ZEPPELIN AIRSHIP.—The new naval airship Z.R. III. made successful trial flights over Germany and Switzerland in September, and at the end of that month was reported ready to attempt the flight across the Atlantic to New Jersey, where she was to be handed over to the American authorities. Lieutenant-Commander C. D. Burney, R.N., M.P., described her after a visit to Friedrichshafen as "a superb craft—the last word in airship construction."

BATTLESHIPS AND AIRCRAFT.—On 21st September it was announced that, at the instance of President Coolidge, a board of naval experts would be appointed to make a study of the comparative value of aircraft, submarines and battleships in future warfare. Admiral Eberle was appointed senior member of this inquiry.

AIRSHIP TESTS.—The President was stated to have been led to this step not only by the successful accomplishment of the world flight, but also by the performance of the naval airship "Shenandoah" on fleet manœuvres. This vessel flew considerably over 1,000 miles on one over-sea patrol, working out 500 miles from the American coast, and for one spell of forty hours she flew steadily at cruising speed.

MOORING EXPERIMENT.—An experiment was made in August of mooring the "Shenandoah" to a mast on board a ship, and was accomplished in two hours. The steamship steamed into wind at about four knots, attended by four motor-boats. When 300 ft. high, the airship dropped a cable, which was picked up by a motor-boat and made fast to a cable from the steamer, the end of which was being held by another motor-boat. The airship was then hauled down to her position at the mooring mast, and rode thereat without mishap.

TURRET EXPLOSION.—The battleship "Mississippi" proceeded to San Francisco about the end of June to transfer to the shore all the ammunition which was flooded in the magazine of No. 2 turret after the explosion off San Clemente, California, on 12th June, when three officers and 45 men were killed and twelve men injured. The Court of Inquiry found that the explosion was due to "foul bore," consequent on insufficient air pressure and the guns not being properly cleared of gas before loading. The number of casualties was increased by the presence of unofficial observers, who crowded the passage ways and made exit more difficult.

MILITARY NOTES.

HOME.

Appointments.—His Majesty the King has been pleased to approve of the appointment of Colonel (Honorary Major-General) the Earl of Athlone, G.C.B., G.C.M.G., G.C.V.O., D.S.O., Personal Aide-de-Camp to the King, Retired Pay, to be Colonel of the 7th Queen's Own Hussars, with effect from the 3rd May, 1924, in succession to Major General Sir Hugh McCalmont, K.C.B., C.V.O., Retired Pay, deceased.

The following appointments are announced by the War Office :—

Lieutenant-General Sir Richard Cyril Byrne Haking, G.B.E., K.C.B., K.C.M.G., to be Colonel of the Hampshire Regiment, in succession to Major-General Sir Charles Benjamin Knowles, K.C.B., deceased.

Major-General Sir James Ronald Leslie Macdonald, K.C.I.E., C.B., retired pay, to be Colonel Commandant, Royal Engineers, in succession to Lieutenant-General Sir Ronald Charles Maxwell, K.C.B., K.C.M.G., deceased.

Major-General Sir Colin J. Mackenzie, K.C.B., retired pay, to be Colonel of the Seaforth Highlanders (Ross-shire Buffs, The Duke of Albany's) in succession to Colonel (Honorary Major-General) R. H. Murray, C.B., C.M.G., retired pay, who has resigned the appointment.

Battle Honours on the King's Colour.—Instructions have been issued by the Army Council for the emblazoning of Battle Honours awarded for the Great War on the King's Colour of Infantry Battalions of the Regular Army, Militia and Territorial Army. Scrolls, to the number of ten, will be affixed to the obverse and reverse sides of the Colour in order of precedence across the Colour, and will be felled on by silk of the colour of the embroidery at the edge of the scroll.

Separate instructions will be published with regard to the supply of Battle Honour scrolls for Standards and Guidons of Cavalry and Yeomanry Regiments, also with regard to the supply of silver Battle Honour scrolls for affixment to Serjeant Drummer Staves of Regular Infantry Battalions.

Royal Artillery Organisation.—Indian Pack Batteries are in future to be designated as units " Royal Artillery "; while the Frontier Garrison Artillery and Indian Coast Artillery will be designated Frontier Brigade, Royal Artillery, and Indian Heavy Battery, Royal Artillery, respectively.

The Malta Regiment.—A new Army Order states that the King has approved of the grant of the following honour and distinction to the King's Own Malta Regiment :—

" The Royal Cypher. A Maltese cross in the four corners. 1800."

Winnipeg Rifles.—An Army Order announces that the King has approved of the Winnipeg Rifles being allied to The Rifle Brigade (Prince Consort's Own).

Short Service in the Army Reserve.—It is announced in Army Orders that, while the normal term of service for enlistment in, and re-engagement for, Section " D " of the Army Reserve is four years, enlistments and re-engagements may be made in future for periods of one, two or three years, according to the requirements of the Reserve.

Army Pensions Increased.—A Royal Warrant issued on 21st August provides for a further increase of retired pay or pensions not exceeding £100, and awarded prior to 4th August, 1914, to officers, nurses, schoolmistresses, widows, recipients of the

Victoria Cross, service or disability, gallant conduct and special campaign pensioners. This addition to the increase given in 1920 will raise the total percentage of increase on pre-war rates to 70 per cent. where the existing retired pay or pension does not exceed £25 a year; to 65 per cent. where it exceeds £25 but does not exceed £50; and to 50 per cent. where it exceeds £50 but does not exceed £100. No pension, however, will be increased by an amount greater than is sufficient to bring the total means of the pensioner up to £150 a year if unmarried or to £200 a year if married; and it is further provided that the present increase will not be greater than that required to secure to the pensioner the same total retired pay or pension as would have been awarded had he retired or been discharged on 1st July, 1923, from the post from which he actually retired or was discharged, at the same age, after the same service and in the same rank as at the time of his actual retirement or discharge.

Cavalry of the Line.—A new Army Order states that the terms of service for recruits enlisting into the Cavalry of the Line will in future be six years with the Colours and six years in the Army Reserve.

Supplementary Reserves for the Army.—Army Orders issued on 12th August authorised the formation of a Supplementary Reserve of Officers, provisionally fixed at 2,489, to complete and maintain all arms at full strength on mobilisation; and also the formation of a Supplementary Reserve, provisionally fixed at 20,639, to complete on mobilisation the requirements of the Royal Artillery, Royal Engineers, Royal Corps of Signals, Royal Army Service Corps, Royal Army Medical Corps, Royal Army Ordnance Corps, and Royal Army Veterinary Corps, for which the existing First Class Army Reserve does not provide.

All officers commissioned into the Supplementary Reserve will be liable to serve in the event of an emergency with any unit of the Forces in any part of the world; but they will not be required to serve in aid of the Civil Power in a domestic emergency. As a rule all officers will be required to carry out preliminary training during their first year of service and annual training during peace, except those who on mobilisation will perform duties similar to their peace time profession.

An annual gratuity of £25 will be paid to each officer if he resides within Great Britain or Northern Ireland, and carries out the prescribed training. During peace officers will generally have the same emoluments as Territorial Army Officers, and when mobilised will receive the rates of pay and allowances in force for the Regular Army.

Candidates may be accepted from civil life, from the Regular Army Reserve of Officers, the Territorial Army, or the Territorial Army Reserve of Officers, and nomination for appointments will be proceeded with at once.

Forms of application may be had from the Under-Secretary of State (S.D.3), War Office, Whitehall, London, S.W.1.

The Supplementary Reserve will be technical in character and for the present will be divided into two categories. One will comprise all *personnel* required to undergo training in peace. It will be incorporated in, and be supernumerary to, the establishments of the Territorial Army; and in the main, it will be raised, trained, and administered in a similar manner to Territorial Army *personnel*. Enlistment will be for a period of four years, with the opportunity to re-engage for 1, 2, 3 or 4 years. The other category will consist of those who will not have to undergo any training in peace, but will be required, in the event of being called to the Colours, to perform duties similar to their professions or occupations in civil life. Enlistment will be for periods of 2, 3 or 4 years, also with the opportunity to re-engage.

Warrant Officers, Non-Commissioned Officers and men will be liable to serve in

any part of the world, and to be called out when the Army Reserve or any part of it is called out by proclamation. When on service other ranks will be in all respects soldiers of the regular forces; but, as in the case of officers of the Supplementary Reserve, the liability to serve in aid of the civil power will not be enforced.

Bounties of £20, £16 and £12 will be paid annually to men enlisted as tradesmen, according to the group to which their trade is allotted. For all other recruits the annual bounty will be £8. But these bounties will be conditional upon the reservists residing in Great Britain or Northern Ireland, reporting themselves in writing quarterly, and performing any prescribed training.

Recruiting was opened on 1st October.

The New Army Reserve.—A large number of applications were made to the War Office for appointments in the Supplementary Reserve of Officers which is being formed to complete and maintain all arms of the Service at full strength on mobilisatiou.

Candidates within the prescribed age limits and with the necessary educational and technical qualifications, will be accepted from civil life, from the Regular Army Reserve of Officers, the Territorial Army and the Territorial Army Reserve of Officers for all Corps except Royal Army Ordnance Corps and Royal Army Veterinary Corps.

The minimum age for appointment is 18, and the maximum limits are as follows :—2nd Lieutenant or Lieutenant, 30 (in the Royal Army Medical Corps, 32); Captain 35; Major, 40; Lieut.-Colonel, 45. Candidates for ranks higher than that of 2nd Lieutenant can, however, be accepted in only a very limited number of cases and high technical qualifications are essential.

Officers of the Supplementary Reserve.—Regulations governing the grant of permanent commissions in the Cavalry, Infantry, Royal Tank Corps and Royal Army Service Corps, to officers of the Supplementary Reserve were issued on 4th September. A maximum of 10 per cent. of the total number of commissions granted annually in these Corps may be given to candidates from the Supplementary Reserve who qualify in the prescribed examination. This examination will take place at the Royal Military College, Sandhurst, at the beginning of June and December each year, and, to be eligible, candidates must be unmarried, and have attained twenty-one years of age but be under 25 on 1st July for the June examination, and on 1st January for the previous December examination. In addition, a candidate must be nominated by the Officer Commanding the unit with which he did his last annual training and must have served for a period of not less than two years as an officer of the Supplementary Reserve and have completed two annual trainings. A syllabus of the examination can be obtained on application to the Under-Secretary of State (S.D.3), War Office.

Territorial Army.—Official returns of recruiting for the Territorial Army during the twelve months ended on 30th September last show that 32,116 men were finally approved for service. Of these, 7,250 were enlisted in the Northern Command; 6,774 in the Western Command; 5,138 in the Scottish Command; 4,456 in the Southern Command; 4,351 in the Eastern Command; and 4,147 in the London District.

The strength of the Territorial Army, exclusive of permanent staff, is now 142,804. The premier place is taken by the Highland (Scottish) Division with 9,530 officers and men; while the Welsh Division stands second with 9,219, and the West Lancashire Division third with 9,090. The next strongest Divisions are the following:—Northumbrian, 8,873; West Riding, 8,826; North Midland, 8,780; Lowland, 8,686; East Lancashire, 8,666; and the East Anglian, 8,448.

Promotion of Officers.—An Army Order issued on 10th August states that up to and including 1st January, 1926, officers of the Territorial Army will be considered for promotion on the recommendation of the General Officer Commanding-in-Chief of the command in which they are serving, and on their records.

Before promotion to captain or to major, officers who have not previously held these ranks for a period of three months prior to 11th November, 1918, in the same arm in a Regular, Territorial or New Army unit, will be required to qualify in certain prescribed courses. But if an officer is recommended for promotion before he has thus qualified, he may be promoted provisionally, provided that he has not already attended a course and failed, on the understanding that he attends a course at the first opportunity and obtains a satisfactory certificate.

Officers above the rank of second-lieutenant (except officers who are candidates for commissions in the Regular Army) may present themselves for examination in subjects (*a*), (*b*), (*c*), (*d*), (*e*) and (*g*) in Appendix X., King's Regulations, 1923, should they so wish. A captain will be examined in the subjects set for captains in the Regular Army; a lieutenant in the subjects set for lieutenants in the Regular Army.

Written examinations for officers who are due to qualify for promotion on or after 1st January, 1926, will be held in April and October annually, commencing in 1925.

Territorial Army Divisional Badges.—It has been decided that units of T.A. divisions may wear the divisional signs which were worn on the sleeve of the jacket by the respective divisions during the Great War, provided that no cost falls on Army funds, and that the expense can be met from surplus Association funds without causing a deficit, or from regimental funds.

FOREIGN.

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BELGIUM.

Senior Officers' Courses.—Senior Officers' Courses are being started in the Belgian Army on lines similar to those held in the French Army ("Cycles d'Instruction" and "Cycles d'Information").

The object of these courses is to spread a common doctrine and to ensure efficiency among the senior officers of the Army, particularly as regards special instruction for those whose employment offers little scope for acquiring up-to-date military knowledge of a general character.

The courses arranged are as follows:—

(*a*) A course ("Cycle d'Instruction") for majors on promotion to lieut.-colonel.

(*b*) A course ("Cycle d'Information") for lieutenant-colonels on promotion to colonels.

(*c*) A course ("Cycle d'Information") for colonels and major-generals.

These courses commenced in March 1924, for lieutenant-colonels only; the others after 1924.

A brief summary of the courses referred to is as follows:—

(a) *Majors' Course.*

(1) A theoretical course for all arms at Brussels.
(2) A special weapon training course at the weapon training schools.
(3) Tactical exercises for all arms.
(4) Visits.

Courses will not in any case be longer than two months, and will usually be held in the autumn.

The programme comprises general and military instruction, and will be carried out by means of lectures, staff exercises and practical demonstrations in connection with armament; *p.s.c.* officers are excused attendance.

(b) *Lieutenant-Colonels' Course.*

The particular objects of this course are to interest officers in the technique and armament of their arm, and especially in the employment of a group of all arms in co-operation.

The course comprises—

(1) A theoretical course for all arms at Brussels.

(2) A special weapon training course with the particular object of demonstrating any novelties in armament.

(3) Tactical exercises for all arms on ground of various natures, and at instructional camps.

(4) Visits.

The duration of these courses is not yet fixed, but probably two months.

Instruction will be purely military, particular attention being paid to the employment of new methods of war, aviation, and tactical exercises on the map and ground.

(c) *Colonels' and Major-Generals' Course.*

The object of this is to prepare officers for Higher Command (Infantry Divisions and Army Corps).

The C.G.S. will superintend these courses, and they will be held at the Staff College. The initial course will last three to four months and will consist of conferences, demonstrations, visits and practical work.

Conferences will be held on—

(1) Recent developments in methods and weapons of war.
(2) Policy and war.
(3) Conduct of war.
(4) Tactics of all arms. (Higher Formations).
(5) Industrial mobilisation.
(6) Administration.

ITALY.

Experiments with large Mobile Organisations.

During August, 1923, Italian Army manœuvres took place in the hilly district south of Lake Garda. The operations were in the nature of a series of more or less isolated experiments to train the new recruits of this class and their young and inexperienced non-commissioned officers, and to test the strategical and tactical value of a new Army unit, the "Mobile Division," which has been created by General Grazioli, commanding the Verona Army Corps. As the cavalry divisional organisation has recently been suppressed, it may be possible that this new formation is designed to take the place of a cavalry division, and would fulfil the missions usually allotted to the latter. Probably, it is intended to go further in its use; but as to this, no information is at present available.

The Mobile Division consisted of—

2 cavalry brigades (each of 2 regiments).
1 regiment (2 battalions) of Bersaglieri cyclists.
1 regiment of dismounted cavalry, carried in lorries.

1 regiment of artillery (2 heavy artillery groups and 2 field artillery groups, each consisting of 3—4-gun batteries).
1 squadron of armoured machine-gun cars.
2 squadrons of aeroplanes.
Engineers and departmental services, carried in lorries.

From previous information that has been received on the subject it would appear that infantry carried in lorries would also form a normal part of the mobile division.

Between the preliminary and final phases of the manœuvres, General Grazioli issued a pamphlet of considerations regarding the tactical employment of mobile units. For practical purposes, these considerations are disappointing, as they are largely theoretical, and it is difficult to extract any clear-cut recommendations. The more important points are given below—

The necessity for employing bodies of mobile troops in modern battle was a striking feature of the late war, but the fact that such units had generally to be improvised in an emergency, detracted largely from their value, owing to the fact that so much depended on effective *liaison* and co-operation which could only be obtained by long practice. It is pointed out that the units composing such a mobile force are of such a heterogeneous character, and operate at such comparatively large intervals and distances, that, without the most carefully organised and practised control and inter-communication, they would rapidly disintegrate into a number of more or less independent units and so lose all tactical value. Hence the vital necessity of providing in peace time for the formation and special training of these units. Although the greater emphasis is laid on rapidity, both as regards movement and also development of fire-power, it is pointed out that the mobile unit must not only have great offensive power, but must also be capable of resisting local counterattacks and consolidating the ground taken. In general it may be said, however, that these troops will be wasted if employed on missions which do not require special mobility: one of the essential points is their occasional employment on well-defined missions, which would usually be of short duration. The best tactical guide for the employment of mobile formations may be drawn from the following remarks on the special characteristics of each of their component elements, which must work in the closest mutual co-operation.

Cavalry.—In comparison with the present fastest cross-country machine, cavalry is considered to have the advantage in that it can retain its speed even across country covered with obstacles, though the possibilities of its intervention are somewhat curtailed to-day owing to perfected means of observation and fire.

It is estimated that the fire-power of a dismounted cavalry regiment, armed with light and heavy machine-guns, will correspond to slightly less than that of an infantry battalion. Great stress is placed on the moral value of cavalry, for which every opportunity must be taken of employing shock tactics. Its other function of reconnaissance is touched upon, while in pursuit cavalry still remains the dominant weapon. Horse-drawn artillery batteries are considered better suited than mechanically drawn artillery to act in close co-operation with cavalry.

Bersaglieri Cyclists.—The employment of cyclist battalions or even regiments as a whole is to be aimed at, and the tendency to use cyclists in small independent bodies, except for long-distance road reconnaissance, is to be discouraged. Owing to the fact that cyclists can use their means of rapid transport right up to the point of attack, they can be equally well employed, according to circumstances, either as units in column, or pushed forward to gain contact, or as a decisive reserve, while they constitute the best protection for troops in billets. It is laid down

that, except in special cases, dismounted cyclists should carry their bicycles folded up on their backs, as otherwise they may be difficult to recover, which fact would seriously hinder further operations.

The most suitable units for co-operation with cyclists are armoured cars and light artillery carried in lorries, as the former can act as improvised strong points for the cyclists, while the latter can afford close support during an engagement.

Cyclists, though quicker than cavalry along roads, will never replace the latter for long-distance reconnaissance work, owing to the fact that roads lead in a fixed direction, whereas the exact position of the enemy, for whom they are searching, is not known. The employment of cyclist patrols for reconnaissance work on roads is generally restricted to the long-distance reconnaissance of definite objectives.

Infantry in lorries.—The use of lorry transport for moving any large units entails many technical difficulties, but their employment under certain circumstances is so effective, and even necessary, that the question repays very careful study. The large area of a modern battlefield makes the existence of a reserve which can be moved rapidly, and is unfatigued by long marches, of prime importance. At the same time, mobile higher formations are called upon to-day to carry out far more important duties than those of the old-fashioned cavalry screen. For such duties as the seizure and consolidation of important points on the line of advance, special breaking-through or enveloping movements and rearguard work, *embussed* infantry will be of the greatest assistance to the more properly styled mobile units.

Artillery.—Taking into consideration the wide area covered by the mobile formation and the comparatively small number of guns at its disposal, a continuous front of artillery fire is out of the question, and the guns will usually be distributed among the various units, keeping a proportion in reserve to assist in striking the decisive blow. In view of the difficulty of establishing ground observation rapidly enough in this kind of warfare, perfect air observation and inter-communication between units become of paramount importance.

Audacity, promptitude, surprise, a spirit of daring and sacrifice and great accuracy of fire are the essential qualities for this artillery. Horse-drawn artillery is best adapted to act with cavalry, while guns carried in lorries should be largely employed with cyclist columns and infantry carried in lorries. The "Mobile Division" has no heavy field artillery allotted to it, but such artillery, either tractor-drawn or carried in lorries, may be added for a definite operation.

Engineers.—Owing to the rapid character of the operations, and also to the fact that, in mobile tactics, it is generally better to get round obstacles than over them, the use of engineers in a mobile formation is comparatively limited. They will be kept towards the rear of the formation but, being mounted on bicycles and with motor transport, can be rapidly advanced for such duties as the consolidation of a position. In order that their employment may be effected with rapidity when required, engineer reconnaissance officers should be pushed up to the head of the most advanced columns, and sometimes even with the forward patrols, with a view to observing the work necessary on the spot and drawing up a plan of work pending the arrival of engineer units.

Aircraft.—In view of the rapidity with which the mobile unit will move, the necessity of aerial reconnaissance is emphasised, and a mobile unit without such reconnaissance is likened to a fast motor-car travelling at night without headlights. The preliminary reconnaissance of the area by aircraft will throw light on the direction most suitable for reconnaissance by the mobile ground units, and will

thus tend to economy of time and energy. The maximum radial limit of aerial reconnaissance for aircraft assigned to a mobile formation is 20 miles.

It is unsound to lay too much stress on the results to be learned from the late war, as the employment of a mobile formation is not analogous to any phase during that period. When the principles for the employment of this formation have crystallised, which can only be effected after a long period of experimental exercises, regulations for its employment can be drawn up.

UNITED STATES.

Industrial Mobilisation.—The following are extracts from an address by the Assistant Secretary of War to the Members of the Army Ordnance Association on 5th October, 1923 :—

Wars are no longer fought by the armed forces alone. Every man, woman and child, every resource, and every dollar in the entire nation must throw its weight towards victory in the time of war. Industry alone cannot win a war, but it can lose a war by failure to supply the armies with munitions vital to their fighting efficiency. An army requires hundreds and thousands of items of supply. For these items we must turn to our industries. The office of the Assistant Secretary of War is the titular head of the industrial part of our National defence. But, this office cannot alone bear the load. It must receive help from industry, just exactly the kind of help you are now giving us. We cannot get along without you. You are necessary to us—vital to us.

Our plans for procurement are progressing in a most satisfactory manner. Our requirements have been figured; we know what we want and when we will need it. Our specifications are nearing completeness. Our facilities are being surveyed, and our requirements in finished articles are being allocated to the facilities. That, in brief, is the present status of the work. But plans for procurement do not stop with the determination and allocation of the finished article. The War Department must go further, and plan for the procurement of machines for the making of its material, for securing the necessary raw materials which might be critical in time of war, and for ensuring an adequate supply of labour, of power, and of transportation facilities. This phase of procurement planning goes beyond the strictly military features, and merges into the broader field which, for want of a better term, has been called "industrial mobilisation." It is on these lines particularly that we come to you for advice.

As you know, most of the physical work and contact with industry is being accomplished by the seven supply branches of the Army, which, through their district officers scattered throughout the country, maintain contact with and work with our industrial establishments, our societies, our associations, and our citizens. I have gathered that you are all more or less familiar with the ordnance phase of the work, and I will dwell only briefly on it.

The Ordnance Department have district headquarters set up and functioning in 13 of our 14 industrial districts. Their total requirements on all their major items, representing 95 per cent. of the total money value, have been apportioned to these districts. The districts are busy allocating these requirements with the manufacturers within the geographical boundaries of their districts. In some districts, this work of allocation is more than 50 per cent. accomplished, and from present progress will be 90 per cent. accomplished before another year.

The work is progressing in a most satisfactory manner, and with all the speed that is commensurate with accuracy and soundness.

Now we come to the remaining six supply branches, and I think it will be

profitable if I tell you briefly what they are accomplishing, as such information will perhaps help in team work, and from it we can get suggestions, encouragement, and a helpful outline which will enable us to better understand the scope of this big work.

The problem of the Quartermaster's Corps is very extensive by reason of the large number and quantity of articles which they will be obliged to provide, but not quite so intricate as that of the Ordnance, because the majority of the articles are those for which there are adequate facilities. The Quartermaster-General called a conference of the various chiefs of procurement areas in August, and the consolidated report of this conference showed that procurement plans were about 50 per cent. complete for administrative, supply, construction and transportation services. They are, however, temporarily labouring under the difficulty of not having sufficient commissioned *personnel* to work on these plans as rapidly as desired. As fully as possible they are utilising reserve officers for this work. There has been a hearty response to this call, but we should like still more reserve officers of the Quartermaster's Corps to associate themselves actively with the nearest depôt, and to take up this line of work to the extent that their peace time vocation permits.

The Signal Corps has its three procurement districts, which include in their territories two or more of the War Department procurement areas, and cover the entire country. These district headquarters are now proceeding with the survey of facilities and with the allotment of definite quantities of supplies with these plants. During this year a special drive has been made for *personnel* for the reserve corps to be secured from business men of experience and capacity. The results have been encouraging.

The Air Service problem is very critical. Their procurement is wholly dependent upon an infant industry which offers considerable hope for the future, but which at the present time is in bad condition due to lack of interest in commercial aviation and the meagre size of Government appropriations for aircraft construction. It is essential that some few plants be kept alive in different localities, and that the art of aeronautical manufacture be preserved. At present the Government orders will not keep one fair-sized plant going. Congress is considering proposals to encourage civilian aviation, and through some legislative stimulus to flying, as well as the encouragement of mail service by aeroplanes, it is hoped to encourage aircraft production so that it may furnish some foundation for expansion for war-time requirements. In the meantime the Air Service has calculated its requirements and has surveyed the various facilities throughout the country, which, however, they find inadequate to meet war production.

The Corps of Engineers has to buy railroad construction and bridge material, and the great variety of engineering equipment and supplies needed for the maintenance of the modern army. The Engineer problem is comparatively simple for two reasons, in the first place practically all items purchased by the Engineers are standard commercial articles, which can be produced by the manufacturers without any change in present organisations or plants. In the second place, the Corps of Engineers spends millions of dollars yearly on river and harbour work, so that it is easy to form a war procurement organisation from both regular officers and reserve Engineer officers who have had a broad experience in purchasing supplies.

One very important work which is being carried out by the Corps of Engineers is a power survey of the country. The purpose of the survey is to determine what power resources are available in the several industrial districts and by what measures

and methods the available power can be increased where an increase becomes necessary for war purposes.

The Medical Department has now completed figuring its requirements, which include over 3,000 items. Plants are now being surveyed, and items are being allocated to facilities. For example, 117 manufacturers in the Chicago district are now being approached. The Department is utilising the American Drug Manufacturers' Association, the American Pharmaceutical Association, the American Surgical Trade Association, and the Rubber Association of America in an advisory capacity. A number of prominent business men have volunteered their services and have been commissioned in the Department. These are in the main either the managers or executives of large firms. Studies have been made of all critical and strategical raw materials, it being estimated that there are only about seven of these items which are absolutely necessary and which are not produced in America. The Medical Department has a problem which in part is somewhat like that of the Ordnance Department, in that they are required to procure many articles that are not manufactured in large quantities in time of peace, and thus necessitate either a conversion of facilities or construction of new facilities. Surgical instruments are an example of this.

The Chemical Warfare Service is confronted with a problem that cannot be answered until war has commenced. This is the question of the extent of the use of chemical agents, particularly gas, during a conflict. We cannot afford to be caught napping. Of course gas defensive measures will be provided for every man and beast, but when we come to the offensive, plans must be made to meet any emergency. The existence or non-existence of a chemical industry, of by-product coke ovens, and the availability of chemical engineers will be the determining factor in our plans. As it stands now we are leaving nothing to chance, and the Government will have to manufacture its requirements in poisonous substances in case they are needed. Chemical plants throughout the country have been surveyed and listed for possible war use. Their requirements in raw material, power, labour and transportation are now in process of being computed. That, after all, is the best and safest way to protect our men at the front from a repetition of what the Canadians suffered at Ypres in April, 1915.

One of the important studies in connection with supply is that of the *time factor*. In our mobilisation plans, the rate at which we enlist or draft our man-power has been set with due regard to the reserve of war material we have on hand and to the time required for industry to start to produce and to reach maximum production. The determining factors in time of mobilisation are to be found in the procurement of supplies and not in the raising of men. It is a perfectly fruitless and extravagant undertaking to mobilise men and have to feed, shelter and clothe them while they stand around waiting for weapons to train and fight with.

In going to industry with our requirements, we are thus compelled to figure on the time element concerned in placing contracts, in the start of the initial operations, and in the achievement of capacity production in each plant. We figure that by proper planning in advance, by having our specifications completely drawn and not changing them, by having as far as possible the necessary dyes available, and by giving the plant complete manufacturing information, we can considerably reduce the time necessary to get into production, and consequently the time taken to get troops in quantity on the firing line. Part of the effort of the supply branches through their district chiefs is being directed with this end in view.

The nation is not self-sustaining with regard to all its necessary raw materials,

many of which are either not found or produced in sufficient quantity in this country to meet our needs. No matter how much we spur up our industrial efforts, there will always be a doubt as to the supply of certain materials, such as rubber, nitrates, tin, manganese, tungsten and vanadium. As another example, India is the sole source of supply of the world for jute and shellac. Such materials we term "strategic war materials."

To be a little more specific as regards the co-operation which we wish from industry, one of our general ideas is that for each class of supplies, of which there are about ten in each supply branch, there will be a small group of regular officers, and a group of reserve officers and civilians who are studying the question from various angles. As the planning develops, critical features will become known and deliberate decisions can be made—the advice and judgment of men of great experience in industry being obtained on questions of importance.

This big work needs trained *personnel* to carry it on. The expansion of the *personnel*, in time of war, must go far beyond that available in the regular Army. By interesting reserve officers and patriotic civilians in this work, keeping them informed of the scope of the plans, and, in the case of reserve officers, calling them to active duty occasionally, a reserve of industrial staff specialists will be created. In this way the work of furnishing the expanded Army in an emergency with adequate supplies and munitions will proceed smoothly and without confusion, as the work will be directed by men familiar with the war-time problem they are confronting, and also familiar with the industry on which they must rely for production.

It is hardly necessary for me to point out what a tremendous saving a sound plan for industrial mobilisation will be in time of war, and of what vital importance it is to every citizen. The Army will be equipped for war months sooner than it was in the past emergency. The war will be shortened by just that much, thereby saving thousands of lives and billions of dollars. It will also mean a minimum dislocation of the normal economic effort and facilitate a return to peace conditions.

WAR DEPARTMENT BUDGET.—*For the Fiscal Year, 1st July, 1924, to 30th June, 1925.*

1. In his Annual Report for 1923, submitted to the President, the Secretary of War states that public opinion has now definitely approved of the National Defence Act, and the question is now only one of cost.

Mr. Weeks then goes on to show that only 6 per cent. of the total Federal Budget is spent on purely military activities, which is equivalent to 2 dollars a year for each person. He stresses the fact that, although in the past ten years the cost of national defence has doubled, during the same period not only has the country expanded in importance and earning capacity and the national wealth greatly increased, but the price of everything has gone up greatly, and actually the relative cost of the Army in 1924 will be less than it has been during the previous nine years.

He again recommends that at the earliest possible date the officer strength of the Regular Army be increased to 13,000, and that of the enlisted men to 150,000, and points out that the regular *personnel* is unduly strained in maintaining the various training camps, and consequently its *morale* is below what it should be.

2. The Service papers claim that the Secretary of War's Report is an effective answer to the "pacifists," containing as it does unanswerable arguments in favour of adequate expenditure on national defence.

3. For this reason it would appear that it cannot fail to carry great weight with the average congressman and citizen, especially as it is backed by the opinions

of the President in his opening message to Congress and those of the various branches in their respective annual reports.

4. *Army Budget*, 1925.—The Army Budget was submitted to Congress on 6th December. The grand total of the estimates, including non-military activities, such as rivers and harbours, soldiers' homes and the actual upkeep of the Panama Canal, etc., comes to 336,441,092 dollars as compared with 249,192,582 dollars for the present year, a decrease of 12,751,490 dollars.

The sum asked for purely military activities is 259,024,006 dollars as compared with 257,274,768, an increase of 1,749,238 dollars.

Roughly, the non-military activities are cut 15,000,000 dollars, due to a large reduction for rivers and harbours. There is, however, an increase of nearly a million dollars for the actual upkeep of the Panama Canal.

5. *Pay of the Army.*—The pay of the Army shows a decrease of 726,152 dollars, compared to last year. The totals are 122,939,514 dollars for 1924 and 122,213,362 for 1925.

6. *Transportation.*—Transportation goes up 1,172,226 dollars as compared with the current year, this increase will allow of greater numbers attending schools and courses; at present the numbers have had to be reduced to a minimum owing to the lack of money voted for travelling.

7. *Remounts.*—The estimate for horses is 1,191,300 dollars as compared with 210,000 for 1924. This is an increase of 981,300 dollars, which is urgently required for replacing horses.

8. *Fortifications in the United States.*—The sum asked for 1925 is 390,679 dollars against 472,380 dollars allotted for the current year. This is a decrease of 81,701 dollars.

Fortifications of the Insular possessions (Philippines and Hawaii) show a decrease of 164,550.

9. *Fortifications, Panama Canal.*—The amount estimated for the fortifications of the Panama Canal shows a considerable increase. 395,460 dollars is now asked against 73,000 dollars, an increase of 322,460 dollars.

It is stated that the time has come to strengthen these fortifications. The largest item under this heading is 272,460 dollars for the construction of coast batteries, against nothing for the current year.

10. *Ordnance Departments.*—1,147,985 dollars is budgeted for 1925 for ammunition (almost entirely S.A.A.) against 574,000 for 1924, *i.e.*, an increase of 573,985 dollars. The amount asked for automatic rifles is 16,000 dollars less than last year.

Tanks show an increase of 7,000 dollars, 176,000 dollars being asked for 1925 against 169,000 dollars appropriated for 1924.

The amount asked for field artillery armament, which includes manufacture and testing of guns, sights and carriages and purchase, etc., of field artillery ammunition, is 1,619,000 dollars against 1,163,500 dollars for the current year, an increase of 436,500 dollars.

For repairs and improvements of arsenals and depôts an increase of 98,750 dollars is asked, the figures being 700,000 dollars instead of 601,250 dollars.

Under the heading of "Fortifications," which includes manufacture, etc., of seacoast guns and the supply of coast artillery ammunition, the sum asked is 2,492,000 dollars compared to 1,196,950 dollars, an increase of 295,050 dollars.

11. *Chemical Warfare Service.*—There is an increase for the Chemical Warfare Service from 717,240 dollars to 720,760 dollars, *i.e.*, 3,520 dollars, due to a slight addition in *personnel*.

12. *Fortifications, Insular Possessions* (*Coast Artillery Corps*).—These include the construction of fire control stations. The amount asked is 183,500 dollars, against 40,000 dollars for the current year, an increase of 143,500 dollars.

13. *Fortifications, Panama Canal* (*Coast Artillery Corps*).—Details as in paragraph 12 above. The increase is 12,000 dollars, being 40,000 dollars against 28,000 dollars.

14. *National Guard.*—The approximate strength of the National Guard on June 30th this year was 160,000, compared with 159,000 twelve months previously. The amount asked for is 30,681,500 dollars, compared with 29,896,590 dollars, an increase of 784,910 dollars.

15. *Organised Reserves.*—For maintaining headquarters, camps, etc., for divisional and regimental headquarters, and the training of officers of the Reserve Corps, the Budget for 1925 is 2,907,640 dollars, against 1,755,000 dollars appropriated this year. This is a substantial increase of 1,152,640 dollars.

16. *General Conclusions.*—Generally speaking, the Budget Estimates do not allow for any addition to the *personnel* of the Army. Large sums are recommended for the upkeep, fortification and armament of the Panama Canal, for transportation, for remounts, for ordnance and ammunition, for the National Guard, organised reserves and citizens' training. Economies are, however, made under other headings, so that the grand total is less than for the current year.

The Estimates only form a basis for discussion in Congress, and may be considerably altered in the passage of the Budget through the various channels, but the general idea in the Army seems to be that it will not be reduced owing to the definite and decided attitude taken up by the President and the Secretary of War.

YUGO-SLAVIA.

Organisation of Ministry of War.

New regulations have recently been issued concerning the organisation and sphere of work of the Yugo-Slav Ministry of War and Marine.

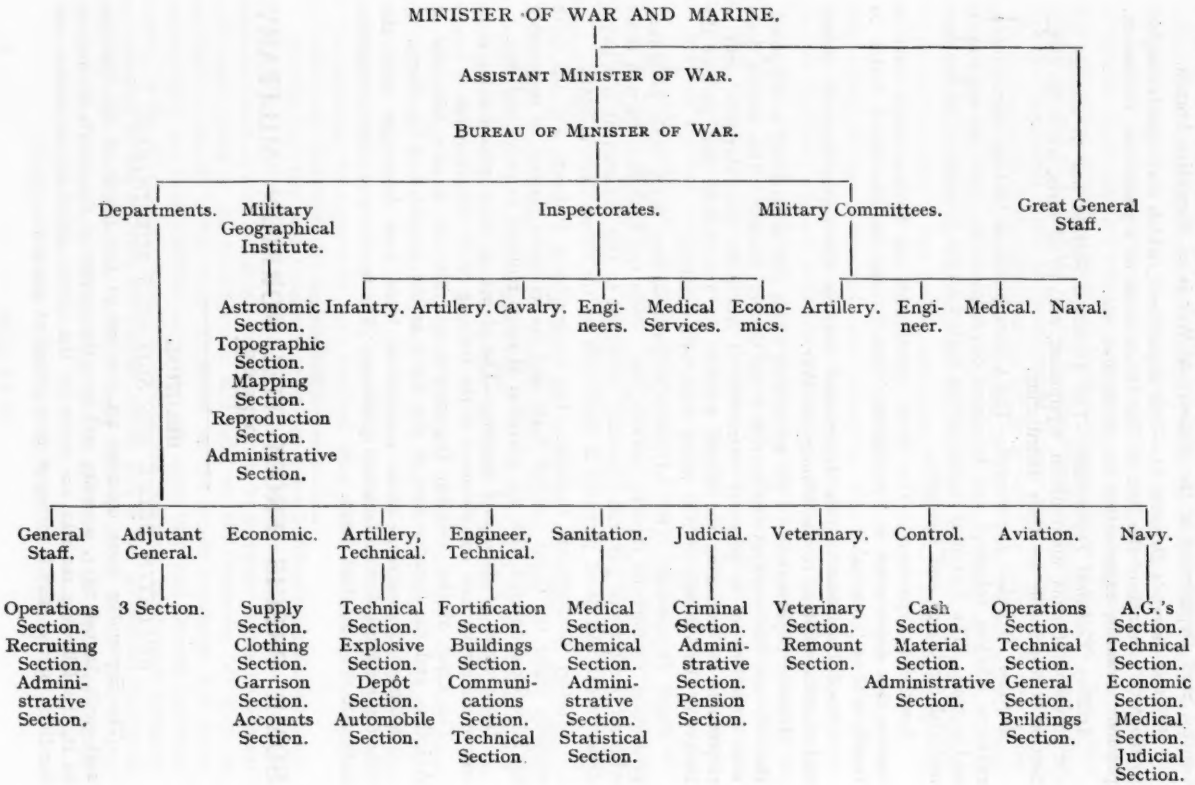
Scope of Work of the Ministry.—The sphere of work laid down for the Ministry is as follows:—

> (*a*) Command and control of military forces. (*b*) *Personnel* and Service matters. (*c*) Religions. (*d*) Discipline and military law. (*e*) Administration in general. (*f*) Organisation, formation, distribution of troops, mobilisation and demobilisation. (*g*) Recruiting, transfer and replacement of wastage. (*h*) Instruction and preparation for war. (*i*) Training of the armed forces; physical training, and development of the *élan* and spirit of the nation. (*j*) Preparation and organisation of the country and the country's resources for war. (*k*) Financial and material supply and control. (*l*) Construction and maintenance of military buildings and the provision of the necessary lands for the armed forces. (*m*) The maintenance of good health amongst men and animals.

Subjects (*f*), (*g*), (*h*) and (*i*) are handed over by the Ministry of War, to a limited extent or completely, to the Great General Staff. The organisation and duties of the Great General Staff will be dealt with in a separate article.

It should be noted that previously the Great General Staff worked almost entirely independently from the Ministry of War; the new regulations now bring the Great General Staff under the Ministry of War to a certain extent.

Organisation of the Ministry.—The organisation of the Ministry of War is shown on the chart. The following notes are in explanation of this chart:—



General Staff Department.—Whereas the Great General Staff is primarily a planning organisation which only functions executively in the event of war, the General Staff Department at the Ministry of War is an Executive branch.

Adjutant-General's Department.—This department, which corresponds roughly to the A.G.'s branch of the British War Office, deals with promotion, retirement, pensions, rewards, examination for promotion, etc.

Artillery Technical Department.—The Technical Section has to arrange for the provision of arms, ammunition, equipment, etc., of all sorts, while the Depôt Section is responsible for their distribution.

Engineer Technical Department.—The Communications Section covers roads, railways, wireless, telegraph and telephone communications, river communication and pigeons. The Technical Depôt Section deals with the provision of all engineer material for troops and fortresses.

Sanitation Department.—The literal meaning of the Serbian word used to denote this department is "sanitation," but it may be considered better to translate it as "medical."

Control Department.—This department controls the expenditure of money and material allotted to the Ministry of War.

Aviation Department.—Of the sections of which this department is composed, the only one that requires explanation is the General Section. This section deals with questions of a personal character, of discipline and statistics, and is responsible for preparing the details required for insertion in that part of the budget of the Ministry of War which deals with aviation.

Naval Department.—The Adjutant-General's section deals with *personnel*, promotion, confidential reports, rewards, etc., while the Economic Section deals with all questions of pay and material. Attached to this department is a naval detachment. All naval planning is dealt with by the Great General Staff.

Military Geographical Institute.—The Geographical Institute was till quite recently under the Great General Staff, and, as its name implies, is responsible for all work connected with the provision of maps required in peace and war.

Inspectorates of Arms and Services.—The object of these inspectorates is to ensure uniformity and completeness in the training of the armed forces.

The Chief of the Aviation Department will also act as the Inspector of Aviation and the Commandant of the Navy as the Inspector of the Navy.

Military Committees.—These committees have been instituted with the object of studying Service technical questions. The functions of these committees have not yet been laid down.

SOME PRÉCIS FROM THE FOREIGN MILITARY PRESS.

BELGIUM.

BULLETIN BELGE DES SCIENCES MILITAIRES.

The September issue contains an account of the Battle of St. Quentin, 29th–30th August, 1914, wherein, and in a description of the events leading up to it, the following remarks are made by the author about the disposition and condition of the British forces at that period of the war.

Writing of "La Conception de la Bataille," the author says:—"Since the actions of the 22nd and 23rd August, in the Ardennes, at Charleroi and at Mons, since, in fact, those battles of the frontiers in which the British and French armies—the former only just landed in the country—had been thrown into disorder by the bulk of the German forces, the retreat of our allies had been constantly accelerated, while General Joffre was preparing such re-arrangement of his troops as would permit of his again offering battle with any chance of success. But when towards the end of August the retreat became even more pressed, it appeared that such re-arrangement might be compromised if some means could not be found of delaying the march of the enemy on the left wing, where the bulk of the new bodies to be thrown into the fight were expected to effect their concentration. Such means must take the form of a serious check given at and to an important portion of the pursuing armies and administered with sufficient energy to cause the Germans completely to deploy. This would cause a loss of time to the enemy and engender a more cautious pursuit in future.

"But at the moment when the French Commander-in-Chief was engaged in these considerations, it received some disquieting reports as to the *morale* of his English allies. It was rumoured that these considered that they had been thrown into the forefront without sufficient preparation, that they had been abandoned during their retreat, and more, particularly, that they had not been supported at the battle of Le Cateau on the 26th August. Further, the relations between Marshal French and his neighbour, General Lanrezac, had not been always as courteous as they might have been; while a misunderstanding, trifling as it might be, between the two commanders, was of a nature to compromise the success of the projected operations. In order then to dispel these complaints and misunderstandings, it was necessary to come to the help of the British and assist them in their retirement. What was in contemplation then would effect this result if it were more particularly aimed at those forces which were directly menacing the British Army."

In order, then, both to gain time and to support the British, it was decided on the 27th August that the 5th French Army was to hang on to the Marlois plateau, defended by nature towards the N. by the Oise, and make a brisk attack towards the St. Quentin plateau against the flank of the German corps then in pursuit of the British.

When these orders reached General Lanrezac he had just decided to continue his retirement, but he loyally agreed to carry out his instructions, making one reservation only—that he should not be expected to attack, as ordered, before daybreak on the 29th. His participation is all the more to be applauded in view of the assurance he appears to have received that under no circumstances must he expect any assistance from the British.

On this day, the 28th, Colonel Huguet, the French military attaché with the British Army, now reported as follows: "The II. British Army Corps is unable either to attack or even to defend itself; were it to be seriously engaged a general rout would result;[1] the I. Corps can still fight on the defensive, but is in no condition to attack." The High Command, so the article continues, had never counted upon any active British assistance, any more than had General Lanrezac himself, in the St. Quentin operations, but, on the contrary, the French offensive was intended as one to *assist* the English forces, and it was understood that such offensive could be carried out without being anxious about them. But if any French soldier had hopes of British help in these operations, the reports of Colonel

[1] Compare "Official History of the War," Vol. I., chap. ix.

Huguet were likely to dispel them. But soon after midday a *liaison* officer arrived and reported having seen General Haig, who on learning of the projected operations on the 29th, had stated that his men were perfectly well able to attack, and that he wished to put himself in direct communication with General Lanrezac and work in combination with the Fifth French Army. General Lanrezac was delighted at hearing this news, and it was accordingly decided that the I. British Corps should march at 9 a.m. on the 29th against the S. of St. Quentin, its right on the main road from La Fère to St. Quentin."

FRANCE.

LA REVUE D'INFANTERIE.

The numbers of this Journal for July and August each contain articles well worthy of study by those who see in the mechanicalisation of the army the possible disappearance of an infantry from the armies of the future. In the July issue, "Rupture de combat et combat en retraite" and in that for August "Le feu et le mouvement" and "Les mitrailleuses dans le combat offensive," show the importance which modern French military thought continues to attach to the employment of a very highly-trained infantry in future war. The gist of all these articles may be found in the words with which one of them closes its argument: "Une infanterie souple, agile, manœuvrière, ayant le culte de l'honneur et du sacrifice, demeure, en tout état de cause, le plus sûr garant du succès. Ne laissons donc pas s'éteindre cette flamme sacrée qui, plus encore que les moyens matériels, nous a valu la victoire en 1914, comme en 1918."

GERMANY.

MILITÄR-WOCHENBLATT.

In the German military journals there has lately been some discussion on the best methods of communication with infantry in action, and in a recent issue of the *Militär-Wochenblatt* the opinion was expressed that in a war of movement the telephone as a means of communication had proved itself to be unpractical, since the time required for establishing, removing and re-establishing the telephone, as the units engaged moved forward, tended to make a message longer in transit than if sent by hand. This view is combated in an article on the subject contained in the issue of this journal for the 11th July last, the author of which maintains that such an opinion is evidently based on the experience of peace exercises, which last only a very short time and are carried out over very small areas, and where messengers, mounted and on foot, are often to be seen in impossible positions immediately behind the firing line. The writer gives several instances, taken mainly, however, from the Russian theatre of war, where the telephone was of the greatest possible value in the war of movement, and he concludes by expressing the opinion that the telephone will continue to hold its place as the principal means of communication in future wars of movement, while messenger dogs and runners must also be made use of. The editor of the journal, Lieut.-General v. Altrock, adds a note to the effect that as a divisional commander on the Western front he found that too often all means of communication failed, and that the only one that functioned was the buried cable.

In the issue for the 18th July a very prolific writer, who calls himself "Lucius Cincinnatus," and who writes on a large variety of subjects, discusses the question of the Channel Tunnel; he recapitulates the objections raised against the making of the Tunnel by Lord Sydenham and others, and the advantages pressed by its promoters, but he pours scorn upon the remarks attributed to General Fouville

in *La France Militaire* that the Tunnel would provide a strengthening of the Franco-English alliance, and consequently a further safeguard of World Peace, while the works could easily be destroyed in the event of war making the destruction of the Tunnel desirable. "Cincinnatus" unkindly suggests that the Franco-British alliance does not yet rest upon any very firm foundation, while history also tells us, he remarks, that such destruction as General Fouville anticipates has often failed to materialise—as when in 1805 the French possessed themselves of the bridge over the Danube near Vienna *sous le nez* of the Austrians. The author closes by saying: "We would not go so far as to declare that the construction of the Channel Tunnel would be for the British *die allergrösste Dummheit*—there *might* be others even bigger, but it would at least seriously depreciate the insular position of Great Britain."

The *Militär-Wochenblatt* of the 4th August last contains an interesting paper on "Minenwerfer," wherein it is stated that while, when the war began, the Pioneers had at their disposal no more than 44 heavy and 116 medium Minenwerfers, the importance of this weapon was so thoroughly realised as the war went on that the number grew to nearly 17,000 of all calibres, exclusive of those behind the front in course of manufacture or in use for training purposes. Actually, under the Peace terms, 28,400 of these weapons were destroyed. In the early days of the war these were employed almost exclusively for position or siege warfare, but in the great offensive of 1918 the light and medium patterns were used in the war of movement and gave most useful results, and the new weapon was found to have more than justified its existence. Under the terms of the Peace of Versailles the number of Minenwerfers, medium and light, per division was strictly laid down, and the question then arose in German military circles whether the new weapon should remain, as heretofore, with the Pioneers, whether it should be specially organised as a separate branch, or whether it should form part of the artillery or infantry. This last was decided upon, and the Minenwerfer company is now No. 13 in each infantry Regiment, with three platoons, armed with light and one with medium Minenwerfers. The writer recapitulates the employment of the weapon as laid down in the Manual, and comes to the conclusion that while the number carried is enough for the war of movement, it is wholly insufficient for the war of position, for which, moreover, weapons of a larger calibre are necessary. Stress is laid upon the importance of close working with riflemen and machine-guns, and of the Minenwerfer being pushed well forward, more particularly at the moment when the infantry attack has broken through the enemy defence. The writer opines that the Minenwerfer has come to stay, and that all care must be taken to develop its powers in every possible way.

WISSEN UND WEHR.

In this journal for September there is an account of the great German offensive from 21st March to 4th April, 1918, concluding with some observations on the reasons for its ill-success. The key to the riddle may in general be discovered in the moral and material conditions of the troops themselves; all that was best in the old German armies lay on the battlefields of Verdun and the Somme, and what took its place was of the character of militia, and as the former officers disappeared and were replaced by younger men wanting in experience, the worse the state of the army became, while also in the non-commissioned ranks the division between them and the privates was very thin and discipline suffered. The home conditions too were not without effect upon the fighting men, and the ground was ready prepared for Socialist propaganda. Then the troops saw no hope of any improvement in the

military situation, and it seemed to them that from season to season, year after year, they must go through the same hell. The men, too, were badly fed and they could no longer withstand the old privations and hardships. In action, again, the famished men thought rather of looting supply depôts—as at Albert—than of continuing the attack; while divisions were sent in to the fight again and again, day after day, long after the limit of man's endurance had been reached.

But also the divisional staffs were to blame; the influence of the trench warfare was still with them, they were always thinking of their communications and did not dare to cut themselves adrift from the telephones, with the result that the idea of going forward was curbed and overlooked. All ranks seemed to find it difficult to adapt themselves to the war of manœuvre, the lines of attack were too thickly occupied and not sufficiently supple; when resistance was met it was countered by frontal attack with no attempt at envelopment, with resultant heavy losses. There was an absence of initiative and there was everywhere an inclination to wait for orders instead of pressing forward; while the guns did not co-operate thoroughly with the infantry and often were far in rear when their assistance was most urgently needed.

The writer deplores the non-employment of cavalry and seems to think that this arm might have had a useful influence on the 23rd March to exploit the gap made between the English and the French armies. But most important of all was the failure of supply to the forward troops—ammunition could not be got forward and as the field kitchens could not get up there was no hot food available for the weary soldiers.

SWITZERLAND.

LA REVUE MILITAIRE SUISSE.

In the August number of the above, Colonel de Diesbach asks himself the question whether war is likely to break out again and whether his country is next time to be involved, and then discusses the manner in which the next war will commence and how Switzerland can best protect herself if attacked. To-day, he says, any hostile nation wishing to traverse Swiss territory would use its air force to prepare the passage in advance. There would be no such formality as declaration of war, but the enemy bombing machines, escorted by fighting planes, could arrive in broad daylight and would bomb indiscriminately arsenals, depôts, munition factories, electric installations and railway stations. Two raids per day by 50 bombing machines each carrying a ton of explosives is, in the opinion of the writer of the article, the very least that his countrymen can expect, and were such measures continued only for four days all mobilisation would be absolutely stopped, while Switzerland possesses no means of preventing or even of combating such methods of invasion. Colonel de Diesbach, declaring that only by aeroplanes can aeroplanes be met, urges the creation of a fleet of combat planes of the latest pattern and the training of a corps of aviators—with these, he believes that at any rate mobilisation would be able to go on unhindered. He raises also the question of the employment by an enemy of new and especially deadly gases, and asks what arrangements have been or can be made, for the early evacuation of the population of frontier regions specially likely to be attacked by this new and terrible weapon. The writer points out that an enemy will not invade Switzerland so much with the intention of possessing himself of and establishing himself in the country, but rather merely of using it as a road by which he can march against and most easily attack his principal opponent. The object therefore of any preparation of a defensive character by the Swiss must be so to delay the invader that he may find the loss of time consequent on an attempt to pass to his main attack by way of Switzerland will not repay him for any material gain which he is likely to reap thereby.

ROYAL AIR FORCE NOTES.

APPOINTMENTS.—The following appointments have been made during the last quarter :—

Air Vice-Marshal F. R. Scarlett, C.B., D.S.O., has been appointed to Headquarters, Coastal Area, on appointment as Air Officer Commanding from 1st September, 1924, in succession to Air Vice-Marshal Sir V. Vyvyan, K.C.B., D.S.O.

Air Commodore J. G. Hearson, C.B., C.B.E., D.S.O., has been transferred from Headquarters, Iraq Command, to Headquarters, Coastal Area, on appointment as Air Officer Commanding Special Reserve and Auxiliary Air Force, with effect from 15th September, 1924.

Air Commodore B. C. H. Drew, C.M.G., C.B.E., has been appointed to Headquarters, Inland Area, for duty as Chief Staff Officer, with effect from 27th August, 1924.

Air Commodore H. C. T. Dowding, C.M.G., to Headquarters, Iraq Command, for duty as Chief Staff Officer, with effect from 19th September, 1924.

Group Captain R. Gordon, C.B., C.M.G., D.S.O., has been appointed to No. 1 Group Headquarters, to command, 21st July, 1924.

Group Captain P. F. M. Fellowes, D.S.O., has been transferred from Headquarters, Middle East, to the Air Ministry (Department of A.M.S.R.) for special duty as Director of Airship Development, 1st July, 1924.

Group Captain F. W. Bowhill, C.M.G., D.S.O., to Headquarters, Middle East, for duty as Chief Staff Officer, 15th August, 1924.

Group Captain Hon. J. D. Boyle, C.B.E., D.S.O., Headquarters Inland Area, for Air Staff duties, 1st August, 1924.

His Majesty the King has been graciously pleased to approve of the grant of the General Service Medal, with clasp " Kurdistan," to the air and military forces under the command of Air Marshal Sir J. M. Salmond, K.C.B., C.M.G., C.V.O., D.S.O., which carried out certain operations in Kurdistan between 19th March, 1923 and 18th June, 1923.

HOME COMMANDS.

FLYING TRAINING.—Since the beginning of the year 187 officers and airmen have completed their *ab initio* flying training at training units. There are at present 50 Naval officers undergoing training at No. 1 Flying Training School, Netheravon. These officers are due to complete their course in December. The second course for Naval officers is due to start on the 15th January, 1925.

ENTRY OF OFFICERS INTO THE R.A.F.—The entry of short service commissions in the General Duties branch has been re-opened and approximately 120 vacancies will be filled during the remainder of the current financial year.

The new scheme for the entry of qualified and experienced civil accountants into the Accountant Branch has been put into effect and the first examination was held during September. The number of vacancies to be filled on this occasion will not be less than 15.

NAVAL CO-OPERATION.—H.M.S. " Eagle " has carried out numerous flying operations with the Mediterranean Fleet and, for the first time, a torpedo attack

has been launched from a carrier. No. 481 Flight, Malta, has been reinforced by a reconnaissance flight landed from H.M.S. "Eagle," and the usual co-operation from this base with the Navy and Army has continued.

H.M. carriers "Hermes" and "Argus" have worked in co-operation with the Atlantic Fleet. Experimental flying has been carried out from the latter. Both ships have on several occasions provided spotting aircraft for Atlantic Fleet gunnery practices.

Naval aircraft "flew past" at the Naval Review in July.

Experiments were tried in attempting to locate shoals of fish in Scottish waters by the use of flying boats. These aircraft worked independently from a detached base for upwards of a month.

One torpedo attack was made on ships of the Atlantic Fleet from Gosport.

The course for Naval officers at Lee-on-Solent has been slightly modified. Before arriving at this school these officers will be taught the theoretical portion of their course at the Naval Schools and the practical application only will be taught at Lee-on-Solent.

ARMY CO-OPERATION.—Four Army Co-operation squadrons have been available during the past training season at home.

No. 2 Squadron worked from Manston and Catterick for the Eastern and Northern Commands, No. 4 from Farnborough and No. 13 from Andover and Tangmere for the Aldershot Command, and No. 16 from Old Sarum for the Southern Command.

All the usual forms of co-operation were carried out in Brigade and Divisional training.

In addition to the four Army Co-operation squadrons mentioned, bombing and fighting squadrons were allotted to the first and second divisions during manœuvres.

One flight of No. 13 Squadron flew to Cologne and worked for a month with the Army of the Rhine.

One squadron of night bombers (No. 7) and one of single-seater fighters (No. 32) provided targets for the War Office Anti-Aircraft practice camp at Hunstanton.

Co-operation with Territorial units and with the Officers' Training Corps was carried out whenever opportunity occurred.

The course for Army Officers at the school of Army Co-operation, Old Sarum, will commence on 24th November next.

R.A.F. STAFF COLLEGE.—The Royal Air Force Staff College, Andover, was closed for the summer vacation from 7th August to 22nd September. During the vacation students were attached for periods of 7 to 10 days to the Navy, Army and Air Force; several students also visited foreign countries for short periods.

The second qualifying examination for entrance into the R.A.F. Staff College took place within commands on 24th, 25th and 26th September.

Two officers are attending the R.N. Staff College course at Greenwich, and one officer is attending a course at the Senior Officers' School, Sheerness. The courses commenced on 15th September and 23rd September respectively.

AERIAL GUNNERY PRACTICE.—During the months of July and August four Service Squadrons carried out their annual aerial gunnery practices at Eastchurch.

BRITISH EMPIRE TORCHLIGHT TATTOO.—Three machines co-operated in this display, carrying out bombing attacks and aerobatics. These machines were illuminated with electric lights.

R.A.F. CADET COLLEGE, CRANWELL.—Nineteen Flight Cadets passed out of the College last August and 30 Flight Cadets joined the College in September, bringing the total number up to 112.

OVERSEAS COMMANDS.

IRAQ.

1. The situation throughout Iraq has, on the whole, been fairly quiet during the period under review, except in the area around Sulaimaniyah and, during September, on the northern frontier in the vicinity of Zakho.

2. SULAIMANIYAH AREA.—As a result of the operations against Sulaimaniyah in May last, mention of which was made in last quarter's notes, Shaikh Mahmoud's prestige sank very low. He quarrelled and broke with his former supporters in the Pishder area owing to their lack of support. There was no pretence at administration, and, as a consequence, the inhabitants asked the Government to step in and administer the Liwa. On the 19th of July the place was, therefore, reoccupied by two regiments of Iraq Cavalry (mainly Kurds) and 100 Iraq Police. They were supported by armoured cars and aeroplanes and by Assyrian levies from Chemchemal. No appreciable resistance was encountered, Mahmoud, with some 250 followers, taking up a position along the Gwezah Dagh (3 miles east of Sulaimaniyah). Following the occupation the position held by the Government forces was sporadically sniped and there were occasional encounters between patrols. In consequence, Mahmoud's position was bombed and machine-gunned by aeroplanes on the 20th and 21st July, and on the latter date ground troops successfully attacked his forces and compelled them to retire. On 23rd July the village of Khamza, which was reported to contain his headquarters, was bombed by four machines, several houses being destroyed.

From this time the situation steadily improved, large numbers of inhabitants returned to the town and the bazaar was reopened. Deserters from Mahmoud's force came in daily. During the last week of July a company of the Iraq Army, with equipment and stores, was flown from Kingerban to Sulaimaniyah to augment the forces there. Mahmoud now began to realise that his hold over the people had almost disappeared and he resorted to tyrannical measures to assert his waning influence. He threatened to raid Sulaimaniyah as opportunity offered, and has threatened with death all those who do not join him. On the 20th August air action was taken against Chingina, which was stated to be his temporary headquarters, and on the 23rd the village of Bargh Tramal Uluya, which was the centre of activity of Karim Fattah Beg, his chief supporter, was destroyed by the 2nd Batt. Levies and Iraq Cavalry, supported by aerial co-operation.

Three extra companies of the Iraq Army reinforced the forces at Sulaimaniyah during August.

Towards the end of August, Mahmoud's offensive activities increased, and at the beginning of September he was temporarily reinforced, and a night attack was made on Sulaimaniyah, but it was repulsed without the Government troops suffering any casualties.

On the 8th September a hostile section of Jaf attacked an Iraq cavalry squadron which was escorting some Iraqian officials on tour. The squadron was forced to retire on Sulaimaniyah, suffering seven casualties, and losses in horses and material. Later in the month a composite column made a successful tour of the disaffected area and much of the captured Government property was recovered.

The latest reports from Sulaimaniyah show that business in the town is increasing and that reparation of damaged buildings has already begun, and that the population of the town has been increased during the two months since the reoccupation from 700 to 12,000, and refugees are still returning.

3. NORTHERN FRONTIER.—Turkish propaganda has caused a certain amount of unrest among the tribes on the Northern frontier of Iraq. During the first week in July the Assyrians in the Amadia district became apprehensive of attacks by Kurds. Bi-weekly demonstration flights were carried out and a company of levies was sent to Amadia, with the result that the district became calm once again.

In order to counteract the Turkish propaganda a column consisting of two companies of levies left Rowanduz on the 3rd August and marched through the Baradost with air co-operation to Kani-Rush, near the frontier. They returned on the 7th August.

At the beginning of September reports of a concentration of Turkish regular and irregular troops on the Northern frontier of Iraq in the vicinity of Zakho were continuously received. Several small patrols were also reported as crossing the frontier and advancing through Iraq territory. The Turks announced that these movements were directed against some of their Assyrian tribes resident within the Turkish frontier who had recently shown themselves as impatient of Turkish control—notably the Tkuma, who had recently attacked and captured the newly appointed Vali of Hakkiari, although they subsequently released him. Whatever their intentions, the moves aroused considerable apprehension amongst the Assyrian population and refugees began to pour into Amadia and district. Accordingly on the 12th September the Turks were warned that any armed men entering Iraq territory would be fired upon and constant air reconnaissances were made. In spite of the warning Turkish regular and irregular forces began crossing the frontier on 14th September and air action was taken against them. Further encroachments subsequently took place and the Iraq police and levy posts were compelled to fall back.

The original line was later re-established and the situation is being closely watched for possible developments.

4. On the 3rd July a demonstration flight of nine machines was sent along the Persian border to Mandali and Khaniqun owing to reports having been received that traffic in arms was being carried on between notables of this area and Shaikh Mahmoud.

5. AHKWAN RAID.—At dawn on the 31st May a section of the Dhafir tribe was raided by the Ahkwan at El Qusair (30 miles W. of Djaliba). The raiders were repulsed with heavy casualties. Aeroplanes were sent to reconnoitre the area in order to prevent a spread of the trouble.

6. *Liaison* FLIGHTS.—On the 8th June three D.H.9As of No. 84 Squadron left Shaibah on a *liaison* visit to Bahrein. The journey was completed in one day. The return journey was successfully completed under very adverse conditions.

On the 29th June three D.H.9As left Hinaidi on a *liaison* visit to the French at Damascus, landing *en route* at Ramadi and Amman. W/T communication was maintained with Baghdad throughout the flight.

During July two French machines from Syria paid a *liaison* visit to Iraq.

7. ARMOURED CARS.—The Armoured Car Companies in Iraq have been employed on various reconnaissances and demonstration runs. Training has also been carried out regularly.

8. TRAINING.—Training has proceeded normally, except in the case of those units participating in the operations against Shaikh Mahmoud at Sulaimaniyah, and against the Turks on the Northern Frontier.

9. Lord Thomson, the Air Minister, during a tour of the Middle East, Iraq and Palestine Commands, arrived at Baghdad on 25th September, flew to Mosul on the 27th, and continued his journey on the following morning to Kirkuk. He returned to Baghdad at noon on the 29th, after having had a most cordial reception at Sulaimaniyah from numerous tribal chiefs, prominent religious leaders and merchants who had assembled at the aerodrome to meet him. Subsequently the Minister, accompanied by the Air Officer Commanding, rode round the town, and afterwards received a number of notables, who expressed their gratitude for the reoccupation of the town by the British.

INDIA.

During June the R.A.F. in India carried out numerous reconnaissance and photographic flights, No. 5 Squadron at Dardoni, in particular, doing a large amount of photography for the Survey of India.

Many flights were undertaken in the course of inspection of landing grounds.

A considerable amount of flying has been carried out in co-operation with Army units, and Quetta Staff College students have been taken up for experience.

On June 7th and 8th three machines were at Arawali and many flights were made, local "Maliks" and Political Agents (both British and Indian) being given air experience.

On June 14th close reconnaissance patrols were carried out during the march of the Razmak column between Piazha Raghza and Razmak.

During June, as a result of an aerial demonstration carried out by a photographic machine, the Nekzan Khel released a Hindu carried off by them from Khajuri Kach last April. The offenders also asked to be admitted as friendlies.

Air action was taken by the R.A.F. on several occasions.

During July it became necessary to take air action against a section of the Shabi Khel in consequence of their continued sniping, kidnapping, and general defiance of authority. After preliminary reconnaissance flights, bombing operations were commenced on the 26th, the tribe having failed to comply with the terms offered them by the given date. The weather was very adverse throughout.

On July 28th a formation of six machines, while returning from a raid, was caught in a heavy mist and clouds, and only two machines succeeded in reaching their aerodrome in safety. The crew of one machine fell into the hands of the Waziris, but they were subsequently released unharmed. As a result of these operations the offending tribes submitted to our terms.

Aerial demonstrations were carried out over Mardech, Haikat Khel and Dara Toi on August 12th and 13th, in connection with a Band Khel jirga summoned in regard to the shooting of two Ghurkas on August 7th.

EGYPT.

Training has proceeded as usual. Co-operation in army training schemes has been frequently carried out. Two photographic surveys have been made, one of the Suez Canal area for the General Staff, and one of Cairo and the Pyramids Platform for the Egyptian Antiquities Department.

A summer training camp on the Bitter Lakes has been instituted, and parties under an officer are sent down for seven-day spells. Reliefs are carried out by air, and communication flights are made daily from Heliopolis. A ground W/T station has been erected and touch is constantly maintained with the squadrons.

At the beginning of August an outbreak occurred amongst an Egyptian Railway Battalion stationed in the Sudan. A Sudanese battalion which was sent down to disarm them was given orders to fire over their heads, but as they were attacked they fired into the insurgents, killing and wounding several. A British battalion was sent from Egypt to maintain order, and at the request of the G.O.C. a flight of D.H.9As was despatched to the Sudan by air to operate also if necessary. The flight reached Khartoum in two days, and, operating from here, has carried out several demonstration flights over Omdurman, El Obeid, Abu Zabbad and Wad Medani. Another flight was ordered to " stand by " in Egypt, but it has not been necessary to employ either of the flights offensively. The aeroplanes made several demonstration flights.

No further outbreaks have occurred, and the situation is now approaching the normal.

ADEN AND SOMALILAND.

Training has proceeded on normal lines throughout.

Co-operation with Royal Navy.—On 2nd May two Bristol Fighters were detached to Perim to co-operate with the Royal Navy against slave dhows. No action was required, however, and the aircraft returned to Aden on the 4th. Photographs were taken of practically the whole of Perim Island.

Two Bristol Fighters visited Shukra on the 16th May and returned *viâ* Wadi Hassan. Photographs were taken of Shukra and Habil.

An aerial reconnaissance was carried out over Wadi Sahabiza and Wadi Bana on 11th June. The G.O.C. Troops in Aden was carried as a passenger.

On 6th June the O.C. Troop of Queen Victoria's Own Guides was flown to Habil to inspect the detachment.

The Acting G.O.C. toured the Aden Protectorate by air during July.

TRANS-JORDANIA.

The Royal Air Force in Trans-Jordania has been concerned in three small operations during the period.

Ahkwan Raids.—On the 30th June a force of Bedouin, probably Ahkwan, was reported between Kaf and Bair. Aircraft were sent out on the following day to reconnoitre the area between Kasr Amra, Bair and Kutrani, but they failed to trace any large bodies of Bedouin.

On the 14th August a report was received stating that a force of Wahabi had raided Ziza (12 miles S. of Amman). As it was evidently the intention of the raiders to attack Amman, the seat of the Trans-Jordan Government, it was decided to take immediate air action against them. Three D.H.9As were accordingly detailed to attack them and on the bursting of the first bomb the Wahabi forces retreated in great disorder, pursued by armoured cars. During the action all aeroplanes were hit by rifle fire, one officer and one airman being slightly wounded. It is estimated that the raiders killed about 40 friendly natives. The moral effect of the air action was very great, creating great consternation amongst the raiders.

SYRIAN FRONTIER.—On the 3rd August a band of brigands attacked a party of French officers and men near Dera'a and, after inflicting casualties, crossed the frontier into Trans-Jordan. The railway station at Mazarib (8 miles N.W. of Dera'a) was attacked and looted on the following day. A force of British Gendarmerie from Palestine was thereupon despatched to the neighbourhood to co-operate with the French forces engaged in tracking down the offenders.

CAIRO-BAGHDAD SERVICE AIR MAIL.

The Cairo-Baghdad Service Air Mail continued to operate regularly during May, June and July. Air Mail duties were carried out by 27 Vickers' "Vernon" machines and two Vickers' "Victorias." Forty-three R.A.F., 12 Military and 3 civilian passengers were carried. The weight of mail transported was 2,944 lbs. There has been a considerable falling off in the amount of mail carried as will be seen from the following figures:—

Weight of mail carried in July, 1923 - - -	2,200 lbs.
Weight of mail carried in July, 1924 - - -	1,220½ lbs.

This decrease is in great measure due to the regular working of the Trans-Desert Motor Service by the Nairn Transport Company, which now runs a regular weekly service between Damascus and Baghdad.

AVIATION IN FOREIGN COUNTRIES.

FRANCE.

MILITARY AIR SERVICE.—*Competition for Single Seater Fighter Aircraft.*—A competition for single-seater fighters is being held by the French Service Technique with a view to determining the types with which the fighter squadrons of the Air Force will be equipped in the future. The results of this competition are not expected to be announced until at least the end of this year. All the machines entered must conform to the 1924 programme, which stipulates that new s.s. fighters must be fitted with engines of not less than 400 h.p.

Details of some of the most successful types entered are as follows:—

Dewoitine monoplane, Type D.12. C.1, fitted with one of the new 450 H.P.W. type Lorraine-Dietrich engines.

The fuselage of this machine is the same as that of the ordinary Dewoitine monoplane, but the wing surface has been increased by the addition of a fairly large centre-section. Four machine guns are fitted, two in the usual position, firing through the propeller, and one attached to a rack under each plane. The ammunition for these two guns is carried in the thickness of the wings. It is said that the speed of this machine with full load at 13,000 ft. is 158 m.p.h., and that the climb to 13,000 ft. is done in nine minutes.

Dewoitine monoplane, Type D.9. C.1. This is the same machine as the D.12 C.1, but is fitted with a "Jupiter" engine, which in France is generally considered to develop 400 h.p. It has not yet undergone full performance tests.

Spad 61 single-seater fighter, fitted with a W type 450-h.p. Lorraine-Dietrich engine. The construction of this machine is the same as that of the Spad Type 81. Details of its performance are not yet available.

Gourdou-Lesseurre monoplane, fitted with a " Jupiter " engine. This machine has a factor of safety of 17, and is said to be one of the fastest single-seater fighters in existence. Its performance under Service conditions is, however, not yet known. It bears a considerable resemblance to the old Gourdou monoplane (which was fitted with a 180-h.p. Hispano engine).

The struts bracing the plane have been reduced in number and the general appearance of the machine has been considerably improved.

AMBULANCE AIRCRAFT.—Experiments are being carried out in France in the use of ambulance machines for the transport of sick and wounded. During the last few years excellent results have been obtained in the use of these machines in Morocco, and the French are now considering the equipment of the whole of the Metropolitan Army with ambulance aircraft.

The type of machine used for this work is the Breguet 14 T *bis*, a modification of the 14 T passenger-carrying machine. There is accommodation for two stretcher cases and an attendant.

An experimental organisation has been drawn up for a combined aerial and motor transport ambulance service, which is intended to function as follows :—

A wireless or telephone message regarding the case is sent to the Medical Headquarters. Simultaneous messages are sent (1) to the Citroen ambulance in waiting at the receiving hospital; (2) to the aerial ambulance at the receiving aerodrome; (3) to the road-ambulance nearest to where the sick man is lying.

These various transport units proceed at once to their stations. Thus the Citroen ambulance proceeds to the receiving aerodrome, the aerial ambulance to the most convenient collecting aerodrome, and by this time the road ambulance has brought the case to this meeting point. The case is quickly transferred on a stretcher from the road transport to the aerial ambulance. After a short and comfortable aerial journey, the case is quickly transferred, at the receiving aerodrome, to the Citroen ambulance which is waiting. Then by a road, reserved for hospital transport use, the ambulance hastens to the Central Receiving Hospital.

At the present time there are only three ambulance machines in France, which were specially employed at the Royal Congress of Public Health at Bordeaux on June, 1924, to demonstrate the possibilities of this organisation, and it is understood that satisfactory results were achieved.

AMBULANCE MACHINES IN MOROCCO.—In Morocco there are approximately 20 ambulance machines, which belong to the 37th Air Regiment, stationed in Morocco. Each of the 10 squadrons of the Regiment has two of these machines, and there are a few held in reserve at the Casablanca base.

Ambulance aeroplanes are entirely at the disposal of the local Army Medical Service, which, in order to avoid loss of time, applies direct to the squadron commander when a case is to be evacuated.

A network of aerodromes has been laid out to facilitate the work of this service.

During the operations in 1923 serious casualties were evacuated under most difficult circumstances owing to the altitude of the landing grounds, many of which are over 5,000 feet above sea level. The district is also very mountainous. All evacuations were, however, carried out in a manner that amply prove the efficiency and advantages of this method. In several cases evacuation was actually carried out under fire.

During 1924 the 37th Regiment transported over 800 cases of wounded and sick without an accident of any kind. No ill effects have been recorded on any of the patients, even in rough weather.

NAVAL AIR SERVICE.—*Cherbourg Naval Seaplane Base.*—A scheme is being carried out whereby the seaplane station at Cherbourg is to be rendered a more convenient base for the Naval Air Service. This work was commenced in June of this year.

A large boom is being constructed which will extend from the point of Le Béton to the outer roadstead, so that seaplanes can be put in the water by means of a big crane.

The cost of this work, which figures in the 1924 budget, is 1½ million francs.

Air Line to the Far East.—The successful conclusion of the flight Paris–Tokio by Lieutenant P. d'Oisy has led to various articles in the French press on the possibilities of an air line from France to the Far East.

ITALY.

Several changes have recently been made in the administration and organisation of the Italian Air Force. Finzi, who was Vice-Commissar, has been replaced by General Bonzani, a soldier who is known to be a man of exceptional ability.

The departure of Finzi and the advent of Bonzani are generally approved, although there is a certain amount of disappointment that an Air Force Officer was not selected. There is, however, probably no one else at present so competent to fill the post.

Mercanti, who had successfully filled the post of Director of the Intendenza Generale (Department of Civil Aviation) has resigned and it is reported that this department (which was also responsible for the administration of the Air Force) is about to be suppressed.

This will entail a considerable re-organisation of the existing *régime*, and already the Commando Generale (the Department of Service Aviation) has undergone certain changes. It now embraces the High Directorate of Engineering and Constructional Services, the High Directorate of Administrative Services and the Accounts and Audit Office, which departments used to come under the Intendenza Generale. Thus the original scheme instituted in March, 1923, by which the Commando Generale was only responsible for the organisation and operational side of Service aviation, while the Intendenza Generale carried out all the administrative work, has now been abandoned, and the new system will approximate more nearly to that of the Royal Air Force on general lines.

The internal organisation, however, is different to that of the Royal Air Force, as the officers on the General Duties list, when employed in command or on flying duties, are relieved of all administrative work and are solely responsible for operations, discipline and unit training. The administrative work of a station is under a Camp Commandant who has an organisation known as a " Centro " Detachment. He works in *liaison* with, but quite independently of, the officer commanding the squadron, and is responsible for all administrative duties.

Mobilisation and movement of units would appear to be facilitated by this system, as the Centro Detachment always remains in the camp, while only the flying units move.

It was anticipated that 600 million lire would be voted for aviation for the year 1924–25. With this sum it was decided to have 115 squadrons by July, 1925. However, only 400 millions have been submitted to Parliament, so the number

of squadrons will have to be reduced. The figure of 400 millions is double the amount budgeted for in 1923–24 (but 100 millions had been left over from the year before).

It is interesting to note that 245 million lire is to be spent on aircraft and material. Consequently a considerable reprovisioning of the Air Force with modern machines is anticipated. On the other hand, the meagre allowance of 10 millions for civil aviation leaves little hope of any progress in that department.

It was recently stated in the Italian Parliament that Italy possessed 1,900 machines. This information is very misleading as the figure includes machines of obsolescent types, which would be of little use in war and also the machines at present on order, the number of which is nearly 600. The actual number of modern and renovated machines, including reserves, is at present probably about 1,000.

According to a press communiqué the Air Force, during July, flew a total of 3,906 hours at home and 345 hours in the Colonies. A successful flight was made by three Savoia 16 flying boats from Sesto Calende to Amsterdam and back. Very bad weather was experienced on both journeys, but the distance of 2,175 miles was flown in a total of 25 hours' flying time.

The activities of the National Aeronautical Corporation (C.N.A.) continue. This Fascist organisation has established twelve Territorial zones, on which sixty Provincial and twenty Corporation secretariats depend. Besides courses of instruction in all aeronautical matters, it trains pilots at six centres.

From these centres 32 pilots have passed out, 80 are at present under instruction, a similar number are about to undergo instruction; 189 applicants have passed the medical tests and 100 are waiting the medical tests. It is also reported that 420 applications are under consideration. It is of interest to note that very strict attention is paid to the physical fitness of an applicant.

A number of new machines are now in the experimental stage. The Savoia firm have built the S. 55, which is an interesting twin-hulled torpedo-carrying monoplane. Her designed maximum speed is 111 m.p.h. with two 300 h.p. engines. The endurance is 5 hours at cruising speed. Three machine guns, wireless and photographic apparatus are fitted, and a torpedo or bomb load of 1,750 lbs. can be carried. The results of the trials have not been published, but it is understood that they were very successful.

Another big bomber was recently constructed by the Italian Branch of the Dornier firm. This machine is a twin-engine all-metal seaplane. It was built for the Spanish Government and at the end of August last flew from Pisa to Melilla, a distance of 1,025 miles, in 10 hours 27 minutes with a crew of three and a useful load of 5,000 lbs.

UNITED STATES.

U.S. Army Air Service World Flight.—The three American aeroplanes left Rangoon on the morning of June 25th, and continued the flight practically without incident. Hull was reached on July 17th, and the machines were thoroughly overhauled preparatory for the flight through Iceland and Greenland. The departure from Hull was made on July 30th. On August 3rd, one machine was forced to come down off the Faroe Islands, the occupants being picked up by a British trawler. The machine was subsequently damaged beyond repair when an attempt was made to hoist it aboard the U.S.S. "Richmond."

The remaining two machines continued and finished the flight at Seattle, Washington, on September 28th.

This magnificent flight, carried out at times under the most adverse conditions,

reflects the greatest credit on the skill and endurance of the *personnel*, and on the reliability of the aircraft used.

DAWN TO DUSK FLIGHT FROM NEW YORK TO SAN FRANCISCO.—A further flight of great merit was carried out recently by Lieutenant Maughan, of the Army Air Service, when he flew from New York to San Francisco, a distance of 2,645 miles, in a total elapsed time of 21 hours, 48 minutes. Five stops, covering 3 hours 28 minutes, were made *en route*. The average speed, including stops, was just over 121 m.p.h., the machine used being a standard army single-seater fighter equipped with extra fuel tanks.

NAVAL AIR SERVICE.—*Aircraft Squadrons, Pacific Battle Fleet.*—A slight change in organisation has taken place recently. Torpedo and Bombing Squadron No. 2 has been placed out of commission, leaving one scouting squadron, three observation squadrons, and three fighting squadrons with the Pacific Fleet.

U.S. NAVAL AIRSHIP Z.R.1.—The "Shenandoah" has been moored successfully to a mooring mast erected on the airship tender U.S.S. "Patoka." After the mooring was completed, the "Patoka" got under way with the airship in tow. The conditions for this operation were extremely favourable, there being a flat calm.

U.S. AIRSHIP Z.R.3.—The reparations airship Z.R.3 has been completed at Friedrichshafen, and made its maiden flight of approximately 3 hours on August 27th. Everything was satisfactory, with the exception of the engines. These have been modified, and two flights, one of 600 miles and the other of 1,000 miles, were made on September 6th and 26th, respectively.

TURKEY.

MILITARY AVIATION.—The visit of a Turkish Air Mission to the principal countries of Europe early in 1924 is reported to have resulted in the purchase by Turkey of a number of machines in France and Italy. Ten Turkish officers have also commenced a course of flying instruction in France.

CIVIL AVIATION.—It is believed that the bi-weekly air service between Constantinople and Angora, announced by the Compagnie Franco-Roumaine, is to be an experimental one lasting over a period of three months, with a view to the eventual formation ot a regular service.

A civil air line between Brindisi, Athens and Constantinople is projected by an Italian company.

PERSIA.

The Persian War Ministry arranged a flying display at Tehran on 25th May, 1924, at which aeroplanes recently purchased in France, Germany and Russia performed. These aeroplanes were of the following types :—

2 D.H.9As, bought in Russia.
2 Junkers Civil aeroplanes, bought in Germany.
1 Breguet type XIV, bought in France.

A large crowd of Tehranis watched the display with great interest.

It is of interest to note that the Breguet aeroplane, which had been flown to Tehran from Bushire by the chief of the French Air Mission in Persia, M. Berhault,

had during the previous week been engaged in operations against the Lurs, against which tribe the Persian Government troops were then in action.

The Persians have no pilots of their own, and the above machines were all flown by pilots of the country by which they were supplied.

CHINA.

In the recent fighting in China, a few aircraft have been utilised by both contending forces. The actual operations have, apparently, been confined to reconnaissance flights and a few spasmodic efforts at bombing.

The C.-in-C. of the Chinese Central Government forces, General Wu-Pei-Fu, has issued a statement to the effect that he has four squadrons of aeroplanes ready to take part, but this cannot be regarded very seriously. Most of the aircraft belonging to Wu-Pei-Fu are old—in fact, they are comprised almost entirely of the remaining machines of the Vickers and Handley-Page contracts which were made in 1921. On the other hand, Wu-Pei-Fu should be better equipped with pilots as most of those trained at Peking under British auspices belong to his clique.

Chang-Tso-Lin has several Breguet and Caudron machines which are fairly new. A rough indication of the number of machines held by him is given by the fact that one day at the end of last year a demonstration flight of twenty machines was seen in the air at Mukden. Chang, on the other hand, has been somewhat handicapped as regards pilots and has recently engaged several French instructors.

The contestants in the fighting near Shanghai are also in possession of a few aircraft, each of which have been utilised in reconnaissance duties and a few bombing flights.

AFGHANISTAN.

Supply of British Aircraft to Afghan Government.—The value of aircraft for dealing with recalcitrant tribesmen has impressed the Afghan authorities to the extent that they have decided to initiate an air service of their own.

A few useless machines had been kept by the Afghans at Kabul and two or three foreign experts retained to look after them, but they never flew. It was not until the spring of 1924, when a somewhat serious rebellion sprang up in the Khost province, that the Amir decided to obtain aircraft which would fly.

The British Government was approached at the end of May, and requested to supply various types of machines for the Afghan Air Service. It was at first decided to supply training machines only, but, in view of the political situation and the urgent demands of the Amir for aircraft to cope with it, two Bristol fighters were despatched by air from India and a Royal Air Force officer sent to Kabul to act as adviser.

The machines in question arrived at Kabul on 22nd August, 1924, and reports on their subsequent employment show that they have had a stabilising effect on the situation. One of the machines is reported to have since crashed.

GERMANY.

The Rhon Gliding Meeting, 1924.—Great interest is being shown in Germany over the annual glider and light aeroplane trials and competitions. Unfortunately, this year's meeting has been attended by bad weather conditions.

One portion of the competition, for which prizes valued at 3,000 marks were to be presented, has had to be postponed. A prize of 1,500 marks for the longest

glide irrespective of wind conditions was won by a flight of 12·6 kilometers, (approximately 8 miles); a second prize of 1,000 marks by a flight of 6·5 km. (approximately 4 miles) on the same day.

No gliding flight of over 1 hour's duration was attained, the nearest approach being one of 58 minutes 25 seconds.

It is of interest to note that in a flight of the light aeroplanes from Wasserkruppe to Kissingen and back, a distance of roughly 40 miles, the only machine to complete the course had a small Douglas engine of British manufacture. The prize for this contest was 2,000 marks.

PRINCIPAL ADDITIONS TO THE LIBRARY.

August, September and October, 1924.

THE GREAT WAR, 1914–1918: NEW ZEALAND EXPEDITIONARY FORCE, ROLL OF HONOUR. 8vo. (W. A. G. Skinner.) Wellington, 1924. (Presented by the High Commissioner for New Zealand.)

A JOURNAL OF THE FIRST TWO CAMPAIGNS OF THE SEVEN YEARS' WAR. Written in French by H. St. Paul. Edited by G. G. Bulter, M.A. 8vo. Cambridge, 1914. (Presented by Captain H. N. Jackson.)

THE TRADE, COMMERCE AND SHIPPING OF THE EMPIRE. By Sir C. McLeod and Prof. A. W. Kirkaldy. 16s. 8vo. London, 1924.

THE LAND OF TWO RIVERS. By E. Bevan. 8vo. London, 1918.

THE ENGLISH CONQUEST OF NORMANDY, 1416–1424: OR STUDY IN FIFTEENTH CENTURY WARFARE. By R. A. Newhall. 18s. 6d. 8vo. H. Milford (Oxford University Press). London, 1924. (Presented by the Publishers.)

INDIA: A BIRD'S-EYE VIEW. By the Earl of Ronaldshay, P.C., G.C.S.I., G.C.I.E. 18s. 8vo. London, 1924.

AN OLD SCOTS BRIGADE: BEING THE HISTORY OF MACKAY'S REGIMENT, NOW INCORPORATED WITH THE ROYAL SCOTS. By John Mackay. 8vo. London, 1885. (Presented by Colonel W. A. Hamilton.)

BANNOCKBURN. By J. E. Morris. Illustrations. 5s. 8vo. Cambridge University Press, 1924. (Presented by the Syndics of the Cambridge University Press.)

THE HISTORY OF THE UNITED STATES ARMY. By Major W. A. Ganoe. 25s. 8vo. London, 1924.

WESTERN CIVILISATION AND THE FAR EAST. By S. King-Hall. 18s. 8vo. (Methuen & Co.) London, 1924. (Presented by the Publishers.)

Les Chemins de Fer de l'Est et la Guerre de 1914–1918. Par Inspecteur Général A. Marchand. 8vo. Paris, 1924.

Le Combat de l'Infanterie. Par Colonel Alléhaut. 8vo. Paris, 1924.

La Division Legère Automobile. Par Général Boullaire. 8vo. Paris, 1924.

Stratégie des Transports et des Ravitaillements. Par Général Ragueneau. 8vo. Paris, 1924.

Prise de Novo-Georgiewsk (Mödlin) par les Allemands en Août 1915. Par Colonel R. Normand. 8vo. Paris, 1924.

Le Drame de la mauvaise Frontière. Par C. Rudrauf. 8vo. Paris, 1924.

La Méthode d'Instruction dans le Cadre d'un Combat de Bataillon. Par Commandant Thiery. 8vo. Paris, 1924.

(The above 7 books are presented by the Publishers, Berger-Lévrault, 136, Boulevard Saint-Germain, Paris.)

The Caliphate. By Sir T. W. Arnold, C.I.E. 10s. 6d. 8vo. Clarendon Press, Oxford, 1924. (Presented by the Publishers.)

The Naval History of the World-War: Offensive Operations, 1914–1915. By Capt. T. G. Frothingham. 18s. Humphrey Milford (Oxford University Press). 1924. (Presented by the Publishers.)

The Greatest Experiment in History. By Sir E. Grigg. 10s. 6d. 8vo. London, 1924.

The Naval Side of British History. By Professor G. Callender, M.A., F.S.A. Illustrations. 7s. 6d. 8vo. Christophers, London, 1924. (Presented by the Publishers.)

Questions d'État-Major. Par Capitaine de Vaisseau Castex. Tome II. 8vo. Paris, 1924. (Presented by the Publishers.)

The Perforated Map: an Aid for Night Operations. By Capt. T. J. Edwards. 1s. 8vo. Gale & Polden, Ltd., Aldershot. (Presented by the Author.)

The Grand Priory of the Order of the Hospital of St. John of Jerusalem in England: a Short History. By Colonel E. J. King, C.M.G., F.S.A. 8vo. St. John's Gate, London, 1924. (Presented by the Author.)

The Army in India and its Evolution. 8vo. Calcutta, India, 1924.

Narrative of the Battle of Jutland (Official). 6s. 8vo. London, 1924.

A Record of the Battles and Engagements of the British Armies in France and Flanders, 1914–1918. By Captain E. A. James. 4s. 8vo. Gale & Polden, Ltd., London, 1924. (Presented by the Publishers.)

Plutarch Lied. By J. de Pierrefeu. 7s. 6d. 8vo. London, 1924.

RECENT CONSTITUTIONAL DEVELOPMENTS IN EGYPT. By the late Sir W. Hayter, K.B.E. 1s. 6d. 8vo. Cambridge, 1924.

The following three books were presented by Captain A. Hilliard Atteridge :—

FACTS AND FAKES ABOUT CUBA. By G. B. Rea. 8vo. New York, 1897.

L'ESPAGNE, CUBA ET LES ÉTATS-UNIS. Par C. Benoist. 8vo. Paris, 1898.
TRAINED CITIZEN SOLDIERY. By Major J. H. Parker, U.S.A. 8vo. Wisconsin, 1916.

THE BRITISH EMPIRE, VOL. VIII. : MAKERS OF THE EMPIRE. Edited by H. Gunn. 16s. 8vo. London, 1924.

THE MAINTENANCE OF PEACE. By S. C. Vestal. 8vo. London, 1923.

L'AFRIQUE ORIENTALE ALLEMANDE ET LA GUERRE DE 1914–1918. Par Commandant Breveté J. Buhrer. 8vo. Paris, 1922.

SIMPLIFIED ORGANISATION AND ADMINISTRATION, WITH DIAGRAMS. By Capt. R. H. D. Bolton. 4s. 6d. 8vo. Gale & Polden, Ltd., Aldershot, 1924. (Presented by the Publishers.)

QUELQUES FEUILLETS DE L'HISTOIRE COLONIALE. Par Colonel P. L. Monteil. 8vo. Paris, 1924. (Presented by the Publishers.)

THE CONNAUGHT RANGERS, 1ST BATTALION, FORMERLY 88TH FOOT. By Lieut.-Colonel H. F. N. Jourdain, C.M.G., and E. Fraser. Vol. 1. Illustrations and maps. 8vo. Butler & Tanner. Ltd., London, 1924. (Presented by the Regimental Committee.)

THE STORY OF A REGIMENT OF HORSE : BEING THE REGIMENTAL HISTORY FROM 1685 TO 1922 OF THE 5TH PRINCESS CHARLOTTE OF WALES DRAGOON GUARDS. By Major the Hon. R. L. Pomeroy. Illustrations and maps. 2 vols. 40s. 8vo. William Blackwood & Sons, London, 1924. (Presented by the Author.)

BRITAIN'S SEA SOLDIERS : A HISTORY OF THE ROYAL MARINES. By Colonel C. Field. Illustrations. 8vo. The Lyceum Press, Liverpool, 1924. (Presented by the Committee of Britain's Sea Soldiers' Fund.)

MSS. inscribed : " A BOOK MADE BY THE COMMISSIONERS OF ALL HIS MA^{TS} STOARES IN THE COMER'S SHIPS AT CHATHAM, WITH DIRECTION FOR YE GOVERNMENT OF THE SAME BEGINING 6TH OF MARCH 1619 AND ENDING 13TH OF MAIE 1620. fols. (Presented by Rear-Admiral H. G. Sandeman, C.M.G.)

OUTLINE HISTORY OF THE RUSSO-JAPANESE WAR, 1904, UP TO THE BATTLE OF LIAO-YANG. By " P. W." Maps. 4s. 6d. 8vo. Sifton, Praed & Co., London, 1924. (Presented by the Publishers.)

VAUBAN, BUILDER OF FORTRESSES. By D. Halévy. 6s. 8vo. Geoffrey Bles, London, 1924. (Presented by the Publishers.)

OUTBREAK OF THE WORLD WAR. German Documents collected by Karl Kautsky. 21s. 8vo. London, 1924.

GERMAN WHITE BOOK. RESPONSIBILITY OF THE AUTHORS OF THE WAR. 10s. 8vo. London, 1924.

PRELIMINARY HISTORY OF THE ARMISTICE. Official Documents published by the German National Chancellery by order of the Ministry of State. 10s. 8vo. London, 1924.

POLITICAL ECONOMY OF WAR. By A. C. Pigou. 8s. 6d. 8vo. London, 1921.

NOTICES OF BOOKS.

The Civil War in America. By W. G. SHOTWELL. In two volumes. London: Longmans Green and Co. 1923.

Mr. Shotwell's purpose has been to write an accurate and interesting story of the American Civil War within moderate compass. But, unfortunately, he has completely overlooked one essential in any account of military operations, especially one which goes into tactical and topographical details as fully as his does: there are no maps or plans and their absence makes the story extremely hard to follow and to many readers it will be little short of unintelligible. It is not too much to say that their absence deprives the book of most of its usefulness, certainly to British readers to whom the geography of the United States is unfamiliar. The defect is aggravated by the fact that many of the battles are told at some length, —indeed, at a length which, without plans, is almost bewildering.

Mr. Shotwell's arrangement of his material is also open to some criticism. He may be justified in the proportion of his space which he has devoted to the Western campaigns, to Grant's operations along the Mississippi, to Shiloh, Corinth, Vicksburg and other battles less familiar to British readers than the campaigns of Lee and Stonewall Jackson in Virginia. But it is at least curious to have the fall of Vicksburg in July, 1863, narrated before Jackson's operations in the Shenandoah Valley or M'Clellan's operations against Richmond of over a year earlier. The justification for laying stress on the early operations in the West, which deprived the Confederacy of resources in men and munitions all the more valuable because it had so much less to draw upon than had the North, lie mainly in the fact that they balanced Lee's early successes in the East. But though this is stated, one has to wait for literally hundreds of pages before one reaches Lee's operations. Indeed the whole of the first volume is devoted to the West, but for the chapters on the political preliminaries and for one chapter on Bull Run. It must be admitted that to a reader not specially familiar with the details of the whole war, the effect is extraordinarily confusing, the more so because Mr. Shotwell has never discussed in broad general terms the strategical situation or the military problems presented by the campaigns. It is almost impossible to get any real grip of the progress of the war, partly because of the

unintelligibility of the detailed narrative due to want of maps, but almost as much due to the relentless speed with which Mr. Shotwell piles detail on detail without giving the reader a chance to take breath and a survey of the situation.

Mr. Shotwell is evidently not a military specialist, otherwise he would hardly have stated dogmatically (I. 353) that Grant was "the greatest military genius of the war," especially in view of his own account of how Grant exposed himself to surprise at Shiloh—it would, therefore, be asking too much of him to demand that he should have sketched the state of the development of tactics at the time or have shown how tactics developed in the war; but it is extraordinary that he says little or nothing about the way in which the two sides raised, trained and organised their armies. To those who watched or took part in the improvisation of the "New Armies" of Great Britain between 1914 and 1918 it would have added special interest to have had an account of how the North and South faced closely parallel problems fifty years earlier, problems which were less serious because both were in the same condition of unpreparedness and had not to meet a well-equipped enemy who had long been preparing for a war on a huge scale.

Perhaps the most valuable chapters are those on the preliminaries of the war. Mr. Shotwell does not anywhere conceal his Northern sympathies, but he does bring out many points in connection with slavery or the other causes of the war. He shows, for example, that the climatic differences between North and South led to the North being quite independent of coloured labour, whereas in the South it had led not only to economic development of a quite different character, but to the existence of a leisured class who could afford the time to devote themselves to public life, with the result that the South had enjoyed a disproportionately large share of offices from the Presidency downwards. The North's realisation of this and consequent jealousy must be borne in mind in estimating the reasons for the outbreak of war. Mr. Shotwell says (I. 52): "All the steps in secession originated with the politicians." The point, however, throughout the book, the political side, is well treated. Mr. Shotwell gives some clear and skilful sketches of the character and antecedents of many of the leaders, civil and military, though it sometimes rather interrupts the thread of a narrative of an operation to have a page or two of this sort of matter inserted. Mr. Shotwell has some tricks of style which are rather irritating, breaking up sentences awkwardly and using full stops where commas are needed; but at times his descriptions are quite vigorous and effective—the story of Farragut's forcing his way through to New Orleans, for example, is well told. But this makes it all the more regrettable that the bulk of the story should be almost impossible to follow for lack of maps and plans.

The Freedom of the Seas in History, Law and Politics. By PITMAN B. POTTER, Associate Professor of Political Science, University of Wisconsin. Messrs. Longmans Green and Co.

Professor Potter certainly set himself a big task in endeavouring to cover so vast a subject within the compass of 240 octavo pages. The fault of his book is that the author never clearly determined whether it was to be a piece of legal history or a review of international maritime law. It oscillates between the two in a fashion which is most disconcerting to those who wish to be quite sure that they have understood the main argument. Professor Potter appears to maintain that the controversy surrounding the freedom of the seas has passed through two quite distinct phases. In the sixteenth and seventeenth centuries the words

stood for a controversy as to whether seas, and even oceans, could be included within a State's jurisdiction; and that, in the eighteenth and nineteenth, the formula was a kind of question: What rights could a naval Power at war exert over neutral commerce? The subject is a highly interesting one, and, to a certain extent, the author treats it fairly and impartially. It is hard to understand, however, why he should put the practices of unrestricted submarine warfare at the *end* of a list of violations of the law of naval warfare, and the extension of contraband at the *head* of it; and certain passages suggest at least a sort of sympathy with those who regard British practices at sea with irritation. On the other hand, Professor Potter expresses the latent naval antagonism between Great Britain and America quite frankly: "Freedom from having the law dictated by one Power, as by Britain, can only come by matching the naval strength of that Power. That, not all States can do: equality of naval strength among all States is impossible. But it has been done, by America, more or less vicariously, for all." Any expression of opinion upon the origin of America's naval expansion, and any suggestion of the policies which it is intended to support, are of the greatest value. It is a little difficult to understand what subject the bibliography is intended to cover. If it is only concerned with those writers who have written upon national jurisdiction over seas, oceans and bays, it is tolerably comprehensive. If, however, it is intended to be a bibliography of maritime law, and one may conclude that this was intended, in that Cicero, Strabo, Virgil and Seneca are included in the list of authorities, then it is by no means complete. Godolphin, Burroughs, Rocci, Fulbecke and De Baïf are omissions which occur at a mere glance: a careful inspection would probably reveal others.

Britain's Sea Soldiers: History of the Royal Marines. By COLONEL C. FIELD, R.M.L.I. Volume I. Liverpool: The Lyceum Press.

The Royal Marines, that distinguished Corps to which no roll of battle honours could do full justice, might well be the despair of the too meticulous historian. For long the Marines achieved no continuity of existence—the present Corps dates but from 1755—and some of its greatest exploits have been those of small detachments serving in more or less obscure encounters of which no reliable records remain.

Colonel Field has turned these conditions to excellent account by granting himself a wider commission, which is sufficiently indicated by the title he has chosen. The British warriors who were embarked in the war galleys of ancient Rome may fairly be styled "Britain's sea soldiers"; later we are appropriately introduced to all sorts and conditions of men who fought afloat for England during the Middle Ages and after; and the illustration from Froissart's manuscript, beautifully reproduced in colours, forms a fitting frontispiece. The records of those Regiments of the Line who won distinction in their early days when serving with the Fleet are also laid under contribution; and the whole comprises a thrilling chronicle of military adventure with the British Navy, afloat and ashore.

It was not till 1664 that the formation of the Admiral's Regiment gave England her first properly constituted Marine Corps. This Regiment bore its share in the fierce naval engagements with the Dutch which took place between 1664 and 1680. It was disbanded seven years later, but, henceforward, whenever fighting was in prospect for the Fleet, there always appears to have been a Marine Corps to give and take its share of hard knocks. Thus Colonel Field describes the taking of Gibraltar in 1704 and the famuos siege which followed; other

stirring stories tell of Vernon's attack on Cartagena, the capture of Belleisle, the Battle of Bunker's Hill, and the Royal Marines at Trafalgar. Hannah Snell is most gallantly given a whole chapter to herself, and other chapters, which treat of the smaller actions at sea, and the cutting out operations and raids during the eighteenth century and the early years of the nineteenth, are among the most instructive and absorbing in the book.

The successive alterations in the status of the Corps and in its arms, training and equipment are faithfully recorded; the mode of life of the Marine afloat and ashore, from Stuart times to the year of Waterloo, is well described. Changes in the uniform are illustrated by a wealth of boldly coloured plates, and there are a host of other illustrations, many of them reproduced from old prints and engravings.

Colonel Field has certainly done great service to his Corps and to its numerous admirers. One looks forward with keen anticipation to his next Volume.

The Cambridge History of British Foreign Policy, 1783–1919. Edited by SIR A. W. WARD and G. P. GOOCH. Cambridge University Press. 3 volumes.

No scholar can read this work without paying a tribute to the memory of the late Sir Adolphus Ward, Master of Peterhouse, the senior editor. The Cambridge History of British Foreign Policy was his last great effort. A profound knowledge both of ancient and of modern History, and also of English Literature, were at the command of this grand student who not merely studied, taught, and wrote throughout his long life, but who generously put his learning and experience at the service of every younger enquirer. His courtesy, friendliness and hospitality were among the pleasantest features of Cambridge life; that great University is now essentially poorer owing to the death of the Master of Peterhouse.

In a recent address at Sandhurst, Lord Cavan, Chief of the General Staff, earnestly recommended the Cadets and all young officers to read the foreign page of the *Times* newspaper. This shows the importance which the highest military authorities attach to the study of foreign affairs. The modern soldier has to be something of a historian, a publicist, a diplomatist, in addition to his other varied and difficult attainments. The delicate and momentous course, political rather than military, which General Harington had to pursue at Constantinople and Chanak in 1922 shows how the fate of States may depend on a soldier being competent in diplomatic affairs and matters of high policy.

It is for this reason that the Cambridge History of British Foreign Policy is cordially to be recommended to all reading soldiers and sailors as well as to the general public. The work was designed "to combine with a strict adherence to historical truth, wherever ascertainable, a national point of view—in other words an avowed regard for the interests, and above all for the honour, of Great Britain." This does not imply that historians must never criticise their country's policy. It is a soldier's duty to defend his country in the field, right or wrong; but this does not involve him in necessarily believing that his country's statesmen are always, inevitably, right. So the historians of the Cambridge History have not refrained from criticism of policy; and much may be gained from a perusal, for instance, of the chapter on the Crimean War, by Mr. Reddeway, or the chapter on the Schleswig-Holstein Affair, by Sir Adolphus Ward. Very properly, however, the distinguishing feature of the *critical* aspect of the work is caution; this is indeed necessary, for a historian who makes dogmatic judgments usually has to revise his opinion every

few years. Sir Adolphus Ward had an especially close and personal connection with the Schleswig-Holstein Affair, so that his verdicts must be received with unusual respect. Nevertheless, some people may think that perhaps he was too cautious in this chapter. He gives, however, plenty of facts and evidence upon which readers may form their own judgments. In the same way the clear and interesting, and very well-informed section of Mr. Cruttwell on Great Britain's attitude in the Austro-Prussian War of 1866 is also distinguished by caution, as is also his section on the war of 1870, where, however, an opinion seems to emerge that the British Government was rather weak. One is inclined to think, that on the whole a little more trenchant expression of judgment in other places would have satisfied at any rate military and naval readers; for British foreign policy, in the period of Palmerston, at any rate, in spite of a great deal of noise, was really not vigorous or resolute; and one result of this was that at the end of Palmerston's life, the European system was changed very much against the interests of Europe as well as of the British Empire; and the British Government's protests were not regarded seriously.

The readers of the *Journal of the Royal United Service Institution* will probably turn with most interest to the chapters at the end of Volume III., where Mr. Gooch writes with a large knowledge both of books and of affairs in the period 1907–1914, and where Mr. Algernon Cecil describes the internal economy of the Foreign Office in a treatise of nearly a hundred pages which has the light touch and easy movement of the best novel, and the vividness which comes from personal experience.

"Select Documents relating to the Unification of South Africa." By ARTHUR PERCIVAL NEWTON, M.A., D.Lit., B.Sc., F.S.A., Rhodes Professor of Imperial History, University of London. London: Longmans, Green & Co. 1924.

It is a safe assumption that any contribution of Professor Newton to the literature of Imperial History is worthy of the earnest attention of all serious students of the subject, and in the present case the assumption is thoroughly justified. Even if he is not studying South African political development at all, the introductory chapter is to be commended to every practical student of matters historical for its excellent exposition of the duties, responsibilities and difficulties which attend those who seek to winnow the dust of yesterday, and to hand on the grains of truth they find for the nourishment of their successors of to-morrow.

Professor Newton announces at the very beginning that the collection has been made for the benefit of undergraduates taking the Historical Schools who are conducting research on a "Special Subject" for degree purposes, and he lays bare in the most arresting manner the principles upon which it has been brought together. The tyro who is to work upon it is told that he has been given a "selection . . . from the mass of writings that are available"; it is to be hoped that he will duly appreciate the benefit of having the selection made for him by such an authority. But at the same time he is warned that the background of the picture must be filled in by his own knowledge of the history of the British Empire in general and of South Africa in particular, while the figures which appear upon the canvas can only be made into portraits of the men whose names grow familiar in the course of the despatches, by some acquaintance with the biographies of these men themselves. In a sentence—he must read around his subject. To this end some good sources are indicated.

The documents selected keep very much to the point in tracing out the successive constitutional instruments offered to, and employed by, the various states and colonies under British rule in South Africa. A certain amount of comment on, and criticism of, these instruments is supplied by official reports of speeches made in the House of Commons, the Cape House of Assembly, &c.; otherwise the tenor of public opinion is reflected mostly in the cold and restrained language of official correspondence, save for one or two after-dinner speeches, in which people let themselves go in joyous fashion. Even so, there is slight danger of the reader arriving at violently partisan conclusions from them, though they give only one side of the case. At the same time, it is a little to be regretted that the momentous conversations with the Transvaal Republic which immediately preceded the second Boer War are not recorded, presumably for lack of space; however, the attitude of the Boer Dutch inhabitants is pretty clearly indicated in the programme and manifestos of the Afrikander Bond, which are quoted from time to time.

The theme of the union of South Africa under one central government has been heard running in widely different quarters at successive periods, and it has been inspired by widely different motives. It ran in the first South Africa Act of nearly half a century ago, as a possible relief to the Home Government from the composing of the ceaseless bickerings of the various Provinces; it ran in the mind of Cecil Rhodes, as a vast and splendid step towards his dream of an Imperial route from the Cape to Cairo; it ran in the brains of Paul Kruger and his companions in their struggle for a Dutch hegemony of the sub-continent under an independent flag; and finally it inspired that act of magnificent daring by which the Mother Country granted a responsible constitution to friend and foe alike, as the panacea for the evils of a great war, the sound of which had hardly died away. And the differently inspired ideals of many were realised, for the success of the experiment is its own monument.

The raw materials of this great and swiftly moving epic are placed before the student in Professor Newton's collection, and he is left to construct the story with the aid of the outside sources recommended; for those who are making Imperial history their special subject, it should be an exercise of much profit. To those who are collecting or recording history of any sort, the examination of Professor Newton's methods and system should be of value; while to those who require the salient and essential documents of South African constitutional history in a readily accessible form, the book should be a useful work of reference. The documents are conveniently arranged in two volumes and are well indexed.

The History of the 5th Dragoon Guards. By MAJOR THE HON. R. L. POMEROY. (William Blackwood and Sons.)

The 5th Princess Charlotte of Wales' Dragoon Guards are a regiment of very old standing, having been originally created as a Regiment of Horse in 1685, in the reign of James II., from certain independent troops of Horse raised in different parts of the country on the outbreak of Monmouth's rebellion. The Regiment was happily not sent into the West to oppose the landing of King William, and first saw service under Schomberg in Ireland, forming part of the cavalry of the right wing at the Battle of the Boyne and remaining in Ireland until the close of the operations. In the following year it embarked for the seat of war in the Low Countries and served there during the five years that the war lasted. In those days the periods of peace were comparatively brief, and it was not long before

the Regiment took the field again in the War of the Spanish Succession, playing its part in nearly all Marlborough's victories and serving also under Webb at the much discussed Battle of Wynendael.

When the Regiment came home in 1713 it was placed under so serious disadvantages that it is matter for wonder that it ever again became a warworthy weapon; it proceeded at once to and remained for *eighty years* quartered in Ireland, split up in innumerable detachments, performing duties of a police or preventive character, and kept on "an establishment which was the lowest skeleton of its proper strength." Of this eventful period Major Pomeroy spares us any detailed account, but describes all the various changes, sartorial and other, which took place during that time.

The 5th Dragoon Guards did not again take the field until 1793, when the French Revolution had produced something of a maelstrom in Europe, and the ill-success of the Duke of York before Dunkirk necessitated reinforcement of his army, when the Regiment, with others, was hurried over to the Continent and was engaged in the purely cavalry actions of Beaumont and Willems. The Regiment did not proceed to the Peninsula until 1811, but it had its share of hard fighting, especially under Le Marchant at Salamanca.

Waterloo was fought without the help of the 5th Dragoon Guards, which, indeed, saw no further active employment until 1854, when they were among the first of the cavalry regiments to be selected for service in the East. At Varna the Regiment suffered much loss from cholera, but it was in fine condition again when it arrived in the Crimea, and was able to do itself full justice in the charge of the Heavy Brigade at Balaklava. Another long period of peace soldiering followed, for it was not until 1899 that the outbreak of the Boer War called the Regiment again into the field. In all these years, however, that this old Regiment of Horse had been in existence it had been preparing itself for anything in the way of war service that might come its way, and when the greatest of all wars opened, the 5th Dragoon Guards were probably at the zenith of their efficiency and went to the seat of war in the 1st Brigade of the Cavalry Division. Of their good work in the war Major Pomeroy furnishes an admirable account; in comparison with certain regimental histories which of late years have appeared, it may seem to some that the Great War does not receive all the detailed attention which its vastness merits; but after all, the European War, long as it lasted and many as were its casualties, is no more than one of many episodes in the life of the Regiment which came into existence nearly two and a half centuries ago, and to the reviewer it seems that Major Pomeroy has treated his subject with a just sense of proportion.

This history is admirably produced and illustrated, though the total absence of maps is, perhaps, something of a drawback in the case of a Regiment which has fought in so many fields. The volume of appendices is very complete and informing, and the author is sincerely to be congratulated on having provided his old Regiment with a chronicle worthy of its brilliant past.

The Knights of St. John in England. By Col. E. J. King, C.M.G., F.S.A. The Fleetway Press.

The ordinary Englishman knows very little about this ancient Order, of its history in the past and of its activities in the present day, and for that reason alone the appearance of this small volume is very welcome and timely. Colonel King, himself a Knight of Grace of the Order of St. John, has consulted all the available authorities, and has compiled a very interesting account of the foundation

of the Order and of all that those who joined it achieved in Palestine and in the Mediterranean, in the two sieges of Rhodes, and in the long-enduring struggle for the Templar estates. The author devotes considerable space to an account of the part played by the English branch in old days and of the many and prolonged misfortunes which befell it, and we hear of the deaths of its leaders in action or in the many battles for lost causes in which they took part.

During its many hundred years of a chequered existence the Order of St. John had passed through three great crises—in 1794, in 1806 and, finally, in 1816, when the Mediterranean coasts had at last been freed from the constant menace of the Barbary Corsairs and the protection so long afforded by the Knights of St. John was no longer needed. It was now, however, recognised that the future usefulness of the Order lay in the development of its service to the poor, while, later, too, it was realised that if the old branch in England was to be revived and its activities extended, the fact must be faced that the country was now predominantly Protestant and that the Order must be primarily open to men of the non-Catholic faith.

From now on the author gives a very full account of the modern history of the Order in this country; we learn of the deep interest which the reigning family, from Queen Victoria onwards, has taken in the Order and especially in its work in the cause of humanity, the development of the St. John Ambulance Association, and the work of the Order in war. There are reproductions of many interesting portraits and illustrations, and it may be said that the book contains in brief a store of information of immense historical value to be found nowhere else, and a perusal of which will richly repay those who may possess themselves of Colonel King's book.

The American Civil War. By FREDERIC L. PAXSON. Williams and Norgate. *2s. 6d.*

This volume is one of the History Series of the admirable Home University Library which, under the combined editorship of Professor Gilbert Murray, the Rt. Hon. Herbert Fisher, Professor J. A. Thomson, and Professor W. T. Brewster, ranges through History and Geography, Literature and Art, to Science, Philosophy and Religion. The aim is to form a comprehensive library of modern knowledge, and each subject is treated by a recognised authority in such a way as to appeal to the general reader, and to provide a reliable starting point for the student.

Thus Professor Paxson, who occupies the chair of American History in the University of Wisconsin, has set forth ably in broad outline—there is no space in which to do more—the causes of the American Civil War, and the course of events, political and military, during the years of hostilities, together with the international complications which ensued.

The opening chapters describe how the united South controlled American politics between 1830 and 1850, and how this control was shattered by the economic development of the North. The time came—as it was bound to come—when the oft-repeated Southern threat of concession to slavery or secession failed to scare the Northern States, to whom the trunk railways had, at last, given political unity. In 1860 the North was in a position to uphold the Constitution as the law of the land.

This portion of the book and the description of Lincoln's rise to office and power are, of course, intended to lead the student forward to deeper reading. So, also, are the brief character-sketches of the chief personalities, soldiers and politicians, on either side, the accounts of the campaigns, and the explanation of

the causes, political, military, and economic, which finally led to the utter defeat of the Confederate States. In his bibliographical notes Professor Paxson points the way among the abundant literature on the subject. He gives a prominent place to one British work, "The History of the Civil War in the United States," by Mr. W. B. Wood and General J. E. Edmonds.

The essential maps were bound to prove a difficulty in a small volume issued at a popular price. There are only three: one showing the United States in 1860, the others illustrating respectively the War in the East and the War in the West. These may be sufficient to enable the reader to see the subject as a whole, but the author is conscious of their inadequacy for the purpose of the student. He urges him to study the campaigns "with the map before him," meaning, presumably, a good large scale map. There is a very good index.

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INDEX.

FEBRUARY TO NOVEMBER, 1924.

PAGE

AFRICA, Some Afterthoughts of the War in East, 1914–1918 (Colonel G. M. Orr, C.B.E., D.S.O., Indian Army (Retired)) 693

AFRICA, South (Captain H. T. Birch-Reynardson) 306, 499

AIR Force for the Royal Navy, The Advantages and Disadvantages of a Separate. Gold Medal (Naval) Prize Essay for 1924 (Captain A. H. Norman, C.M.G., R.N.) 264

AIR Force for the Royal Navy, The Advantages and Disadvantages of a Separate. Second (Naval) Prize Essay for 1924 (Lieutenant Commander G. N. W. Boyes, R.N.) 276

AIR Force in Time of War, The Supply and Training of Officers of the (lecture) (Group Captain P. B. Joubert de la Ferté, C.M.G., D.S.O., R.A.F.) 37

AIR Strategy (lecture) (Wing Commander C. H. K. Edmonds, D.S.O., O.B.E.) 191

ANTI-SUBMARINE Campaign in the Mediterranean subsequent to 1916, The (lecture) (Captain C. V. Usborne, C.M.G., R.N.) 444

AVIATION, Civil, as a Reserve to the Royal Air Force in Time of War, The Value of (lecture) (Air Commodore R. H. Clark-Hall, C.M.G., D.S.O., R.A.F.) 415

COMMISSION of Control in Germany, 1919–1924, Work with the Allied (lecture) (His Excellency Major-General the Hon. Sir Francis R. Bingham, K.C.B., K.C.M.G.) 747

CONTROL, Distant (Lieutenant-Commander G. C. Steele, V.C., R.N.)... 542

"DEAD END," The Great (Major R. J. Brett, D.S.O., 43rd Light Infantry) 727

DOUGLAS of the "Royal Oak" (L. G. Carr Laughton)... 90

FRENCH Army at War, The (Captain E. W. Sheppard, O.B.E., M.C., Royal Tank Corps) 703

PAGE

GERMAN Air Force on the Western Front, The (Wing Commander B. E. Smythies, D.F.C., R.A.F.) 126

GERMAN 24th Division in the Offensive of March, 1918, The (translation) 349

INDIA, The Reorganisation and Training of the Army in (lecture) (Colonel Donald E. Robertson, D.S.O., I.A.) 316

JUTLAND, The Historical Perspective of (John Leighton) 73

MARINE, The Past and Future of the Royal Indian (lecture) (Rear-Admiral H. L. Mawbey, C.B., C.V.O.) 465

MESOPOTAMIA, The Campaign in—The First Phase (" Dalil ")... ... 510

MILITIA as the Constitutional Force of Great Britain, The Position of the (lecture) (Colonel the Rt. Hon. Lord Ampthill, G.C.S.I., G.C.I.E.) 1

MONITORS in Modern Naval Warfare (lecture) (Captain E. Altham, C.B., R.N.) 24

NAVY, the Air, and the Empire, The (A debate between Admiral Mark Kerr, C.B., M.V.O., and Captain the Rt. Hon. Viscount Curzon, M.P.) 211

NAVY, The Supply and Training of Officers for the Royal (lecture) (Vice-Admiral V. H. G. Bernard, C.B.) 52

NAZARETH, Marshal Liman von Sanders's Account of the Surprise Attack on his Headquarters at, 20th September, 1918 (translation) 138

NITROGEN and the Next War (Major E. R. Macpherson, O.B.E., F.R.G.S., R.A.O.C.) 84

OVERSEAS Naval Forces, Their Organisation, Training and Relation to the Imperial Services, The Origin of (lecture) (Rear-Admiral Sir E. P. F. G. Grant, K.C.V.O., C.B.) 240

PIPECLAY Army, Memories of the Old (Colonel J. G. Downing) ... 109

PREOBRAJENSKY Regiment of the Russian Guard, The (Captain Count Bennigsen, M.C.) 99

RED Army and the Soviet Literature, The (B. Heroys, General in the Imperial Russian Army) 732

RUMANIAN Campaign, 1916–1918, An Outline of the (Major-General W. M. St. G. Kirke, C.B., C.M.G., D.S.O., *p.s.c.*) 617

PAGE

RUSSIA and Japan, Some Strategical Problems of the first Phase of the War between (Major-General Sir W. D. Bird, K.B.E., C.B., C.M.G., D.S.O.) 647

SABA, The Island of (Lieutenant-Colonel P. T. Westmorland, C.M.G., D.S.O.) 764

SALT, Aman and Jordan from Turkish Sources, The Battles of (" Skander Bey ") 334, 488

SINGAPORE (Captain R. J. Wilkinson, O.B.E., 2nd Bombay Pioneers, Indian Army) 687

TRAINING of Officers for the Army, The Supply and (lecture) (Colonel the Hon. M. A. Wingfield, C.M.G., D.S.O.) 433

AUTHORS AND TRANSLATORS.

ALTHAM, Captain E., C.B., R.N. (Monitors in Modern Naval Warfare) (lecture) 24

AMPTHILL, Colonel the Rt. Hon. Lord, G.C.S.I., G.C.I.E. (The Position of the Militia as the Constitutional Force of Great Britain) (lecture) 1

" ANON " (Marshal Liman von Sanders's Account of the Surprise Attack on his Headquarters at Nazareth, 20th September, 1918) 138

„ (The German 24th Division in the Offensive of March, 1918) 344

BENNIGSEN, Captain Count, M.C. (The Preobrajensky Regiment of the Russian Guard) 99

BERNARD, Vice-Admiral V. H. G., C.B. (The Supply and Training of Officers for the Royal Navy) (lecture) 52

BINGHAM, His Excellency Major-General the Hon. Sir Francis R., K.C.B., K.C.M.G. (Work with the Allied Commission of Control in Germany, 1919–1924) (lecture) 747

BIRCH-REYNARDSON, Captain H. T. (South Africa) 306, 499

BIRD, Major-General Sir W. D., K.B.E., C.B., C.M.G., D.S.O. (Some Strategical Problems of the First Phase of the War between Russia and Japan) 647

BOYES, Lieutenant-Commander G. N. W., R.N. (The Advantages and Disadvantages of a Separate Air Force for the Royal Navy, Second (Naval) Prize Essay for 1923) 276

PAGE

BRETT, Major R. J., D.S.O., 43rd Light Infantry (The Great "Dead End") 727

CARR-LAUGHTON, L. G. (Douglas of the "Royal Oak") 90

CLARK-HALL, Air Commodore R. H., C.M.G., D.S.O., R.A.F. (The Value of Civil Aviation as a Reserve to the Royal Air Force in time of War) (lecture) 415

CURZON, Captain the Rt. Hon. Viscount, M.P., and Admiral Mark Kerr, C.B., M.V.O., A debate between (The Navy, the Air, and the Empire) 211

"DALIL" (The Campaign in Mesopotamia—The First Phase) ... 510

DOWNING, Colonel J. G. (Memories of the Old Pipeclay Army) ... 109

EDMONDS, Wing Commander C. H. K., D.S.O., O.B.E. (Air Strategy) (lecture) 191

FAYLE, C. Ernest (Carrying-Power in War) 527

FERTÉ, Group-Captain P. B. Joubert de la, C.M.G., D.S.O., R.A.F. (The Supply and Training of Officers of the Royal Air Force) (lecture) 37

GRANT, Rear-Admiral Sir E. P. F. G., K.C.V.O., C.B. (The Origin of the Overseas Naval Forces, Their Organisation, Training and Relation to the Imperial Services) (lecture) 240

HEROYS, B., General in the Imperial Russian Army (The Red Army and the Soviet Literature) 732

KERR, Admiral Mark, C.B., M.V.O., and Captain the Rt. Hon. Viscount Curzon, M.P., A debate between (The Navy, the Air, and the Empire) 211

KIRKE, Major-General W. M. St. G., C.B., C.M.G., D.S.O., *p.s.c.* (An Outline of the Rumanian Campaign, 1916–1918) 617

LEIGHTON, John (The Historical Perspective of Jutland) 73

MACPHERSON, Major E. R., O.B.E., F.R.G.S., R.A.O.C. (Nitrogen and the next War) 84

MAWBEY, Rear-Admiral H. L., C.B., C.V.O. (The Past and Future of the Royal Indian Marine) (lecture) 465

NORMAN, Captain A. H., C.M.G., R.N. (The Advantages and Disadvantages of a Separate Air Force for the Royal Navy, Gold Medal (Naval) Prize Essay for 1924) 264

PAGE

ORR, Colonel G. M., C.B.E., D.S.O., Indian Army (retired) (Some Afterthoughts of the War in East Africa, 1914–1918) ... 693

PONTING, Major T. J., 4/8th P. W. O. Punjab Regiment (Cilicia and the Baghdad Railway) (A lecture delivered at the Staff College, Quetta) 718

ROBERTSON, Colonel Donald E., D.S.O., I.A. (The Organisation and Training of the Army in India) (lecture) 316

SHEPPARD, Captain E. W., O.B.E., M.C., Royal Tank Corps (The French Army at War) 703

"SKANDER BEY" (The Battles of Salt, Aman and Jordan from Turkish Sources) 334, 488

SMYTHIES, Wing Commander B. E., D.F.C., R.A.F. (The German Air Force on the Western Front) 126

STEELE, Lieutenant-Commander G. C., V.C., R.N. (Distant Control)... 542

USBORNE, Captain C. V., C.M.G., R.N. (The Anti-Submarine Campaign in the Mediterranean subsequent to 1916) (lecture) ... 444

WESTMORLAND, Lieutenant-Colonel P. T., C.M.G., D.S.O. (The Island of Saba) 764

WILKINSON, Captain R. J., O.B.E., 2nd Bombay Pioneers, Indian Army (Singapore) 687

WINGFIELD, Colonel the Hon. M. A., C.M.G., D.S.O. (The Supply and Training of Officers for the Army) (lecture) 433

FRONTISPIECES.

CORNET William Berners ... ... *preceding page* i

BONE Model of French Three-Decker of "Montagne" Class, Period 1794 ... ... „ „ vii

A WATER-COLOUR Painting of H.M.S. "Martin," off the Island of Saba, West Indies ... ... „ „ xv

Two photographs illustrating Major-General the Hon. Sir F. Bingham's lecture ... ... „ „ xxi

MISCELLANEOUS.

	PAGE
SECRETARY'S Notes	i, vii, xv, xxi
NAVAL Notes	141, 349, 553, 766
MILITARY Notes	151, 377, 569, 779
ROYAL Air Force Notes	161, 385, 582, 797
PRINCIPAL Additions to Library	170, 399, 596, 809
NOTICES of Books	173, 402, 598, 812

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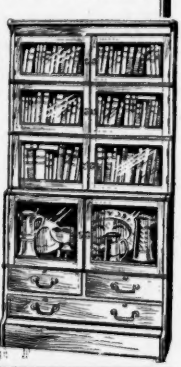

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CONTENTS.

STEEPLECHASING (*Frontispiece*).
LESSONS ON THE EAST PRUSSIAN CAMPAIGN.
THE CAPTURE OF THE MONT DES CATS.
A PORTRAIT.
A TIGER HUNT IN THE CENTRAL PROVINCES.
THE BELGIAN CAVALRY SCHOOL.
MAIWAND.
A CAVALRY MARCH.
SHOWING THE FLAG IN INDIA.
THE LAST OF THE MAMELUKES.
A DRAGOON OF THE GUARD.
THE HAT TRICK.
YEOMANRY BADGES (*continued*).
ALEPPO DURING THE ARMISTICE.
REGIMENTAL ITEMS OF INTEREST.
NOTES.
SPORTING NOTES.
INDEX TO VOL. XIV.

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